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Poster Session 1

Posters P-001 – P-063 will be adjudicated at 16:30 on Thursday 30th November 2006

Poster Session 2

Posters P-064 – P-125 will be adjudicated at 16:30 on Friday 1st December 2006

All posters will be presented in the Reading Room, above the main hotel foyer

Poster Presentations

P-001

Bilateral hydrothorax and hydromediastinum after a subclavian line insertion

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The author presents this case report of bilateral hydrothorax and hydromediastinum secondary to an uncomplicated insertion of a right triple lumen subclavian catheter in a patient ventilated in the intensive care unit following neurosurgery for a compound skull fracture.

This complication was identified six days after the line was inserted by observation of a swelling on the right side of the neck and chest wall, routine plain radiography and computed tomography of the cheSt The subclavian line was subsequently removed, bilateral chest drains were inserted and eventually the patient made a good recovery.

P-002

General anaesthesia and acute intermittent porphyria: a case presentation

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We present a 35 year old lady known to suffer from ACUTE INTERMITTENT PORPHYRIA who was referred for General Anaesthesia for laparotomy in view of persisting abdominal pain. This clinical diagnosis of porphyria had been previously confirmed by elevated urinary porphyrins on more than one occasion. Prior to our encounter with the patient, she had been administered GA on four separate occasions over a number of years. Following each and every GA she was complaining of severe abdominal pain. We describe each GA and the drugs that were given on each occasion:

Our anaesthetic technique varied with the knowledge that the patient has acute intermittent porphyria and we summarise every drug that was given before, during and after our anaesthetic. We also discuss the monitoring used during the whole procedure.

Our patient did not show any signs of distress throughout anaesthesia and she made an uneventful recovery with no complaints of abdominal pain or of any other sort

P-003

Reverse engineering applied to a lumbar vertebra

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Introduction: By applying the concept of reverse engineering to biomechanical applications, numerical techniques are able to find a compromise between the drawbacks of traditional 'in vivo' and 'in vitro' testing through computer simulation. The simulation requires the construction of a virtual model, usually done via a 3D scan. The scan would create a point cloud of the bone's geometry from which a 3D solid model could be created. The virtual behavior of the model would then be controlled by means of defined boundary conditions through software applications.

Method: CT or MRI scans would present the best point cloud, 'in vivo', but the Finite Element Analysis (FEA) software package available requires converting DICOM data to IGES format. Since the software for successful transfer was not available 3D laser scanning of an 'in vitro' sample was to be used. The third lumbar vertebra, loaned from the anatomy department, was significantly damaged. The vertebral body was deteriorated at its sides and most processes of the neural arch were missing and had to be reconstructed. The poor scanning method failed to target all areas of the bone; thus calling for manual reconstruction of the vertebra foramen. The virtual geometry was manipulated using various Computer Aided Design (CAD) applications and through various data exchange formats. FEA software was then used to add final touches to the vertebra's geometry. Isotropic and orthotropic sets of material properties were defined separately, boundary conditions were set and the Finite Element Method (FEM) was employed on both occasions.

Results: The stress and strain contours in the cortical shell and cancellous core of the vertebra were derived from the displacement values of each node in the virtual model. A comparison between the isotropic and orthotropic models was made and conclusions were drawn.

P-004

DNA modifying agents and co-culture techniques applied to cord blood mononuclear cell fraction enhance the expression of neuronal antigens

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Background: Cord blood is nowadays recognised as a readily available and often banked source of stem cells. The plasticity of adult stem cells (of which cord blood form part) is being ever more clearly recognised resulting in a growing interest in the possibility of trans-differentiation opening up new therapeutic possibilities of cell transfer.

Aims: The purpose of this study was to analyse the potential for cord blood-derived cells to express neuronal antigens (as indicators of a shift towards neuronal differentiation) and to assess how to best enhance this tendency to trans-differentiation using chemical mediators and co-culture techniques.

Methods: Cord blood was obtained from term placental deliveries, after having obtained informed consent. The mononuclear cell portion was isolated using density centrifugation techniques and was cryopreserved until further use. When sufficient cord units had been processed, cells were divided into aliquots and exposed for a week to combinations of chemical modifiers including retinoic acid (known to cause neuronal antigen expression - positive control), DNA demethylating agents, histone deacetylase inhibitors and medium from neuronal and other cells. Neuronal filament expression was detected by fluorescent antibody staining and flow cytometry.

Results: DNA demethylating agents and neuronal cell conditioned medium enhanced neuronal filament expression whilst demethylating agents and other cell conditioned medium blocked neuronal antigen expression.

Conclusion: Neuronal antigen expression can be enhanced in cord blood-derived cells by demethylating agents and neuronal cell-conditioned medium

P-005

Isolating, growing and expanding cord blood mesenchymal and haematopoietic stem cells

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[3]Department of Pathology,
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Background: Cord Blood is providing a readily available source of diverse kinds of stem cells with great renewal capability which is being banked internationally in public cord blood banks and which is providing the possibility fo the promise of stem cell therapy without the controversies related to embryonic stem cells. One of the limitations of using cord blood for transplantations is the cell number which only allows satisfactory engrafting in children

Aims: The purpose of this study was to isolate different populations of stem cells from cord blood, including different types of mesenchymal stem cells (MSCs), particularly unrestricted somatic stem cells (USSCs), as well as Hematopoietic stem cells (HSCs), growing them in culture, quantifying their growth potential and attempting in vitro expansion using a number of two and three dimensional techniques.

Methods: Cord blood was obtained from term placental deliveries, after our having obtained informed consent, by the delivering midwives, to whom we are greatly indebted for their sterling work. The mononuclear cell portion was isolated using density centrifugation techniques. Cells were seeded in tissue culture flasks and grown in culture media together with dexamethasone. Haematopoietic stem cells were grown in semi-solid media after long-term culture.

Results: Different Stem cell populations were isolated including CD34+ve HSCs and USSCs and these were identified by morphology as well as by flow cytometry. Clonogenic capability was shown.

Conclusion: Different stem cell populations were successfully isolated from cord blood mononuclear cell fraction.

P-006

Isolating, growing and expanding skin cells, using cadaveric skin and bone collagen as templates for skin reconstruction

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Background: Skin replacement in burns is an important part of the therapeutic procedures carried out for such patients. In the case of extensive burns, cadaveric skin from unrelated cadavers appears to be a short term option. However long term permanent replacement requires skin made with the patient's own cells. Limiting factors for rapid growth of replacement skin include a suitable infrastructure which will not cause rejection.

Aims: The purpose of this study was to isolate skin cells from patient-derived skin which was to be discarded and using these skin tags to grow and amplify keratinocytes and attempt to reproduce larger pieces of replacement skin using infrastructural frameworks from cadaveric skin and bone collagen amongst others.

Methods: Skin (primarily foreskins from circumcisions) was obtained after having received informed consent from the patient's parents. Epidermis and dermis were dissociated by overnight dispase digestion and keratinocytes were further isolated using trypsin before seeding into tissue culture plastic with appropriate speciality medium.

Dermis was used to culture fibroblasts separately to prevent them taking over the keratinocytes culture. Both cell types were integrated into skin scaffolds.

Results: Successful isolation of both cell types was completed – results of skin cultures using different scaffolds is shown.

Conclusion: Skin fragments for suitable grafting in case of severe burns can be generated by amplifying keratinocytes from small segments of skin.

P-007

Linkage analysis in two Maltese families with a high incidence of Coeliac disease

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Aims: Gluten-sensitive enteropathy, or coeliac disease, is an autoimmune disorder characterized by inflammation, villous atrophy and hyperplasia of the small intestinal mucosa. Coeliac disease is a complex disease caused by both environmental and inherited factors. A small number of family based linkage studies were carried out so far, where the HLA locus on chromosome 6 and other chromosomal regions were linked with the disease. In this study, linkage analysis was carried out in two extended Maltese families with a high incidence of coeliac disease.

Methods: A whole genome linkage scan using 400 microsatellite markers was performed in twenty four family members, seven of whom where diagnosed as coeliac by biopsy. Multipoint parametric and non-parametric linkage analyses were performed by EasyLinkage v4.01 using GENEHUNTER v2.1, assuming dominant and recessive modes of inheritance with variable penetrance. Disease allele frequency was assumed to be 0.001.

Results: The most significant NPL was of 3.23 (p=0.0039) and LOD of 1.49, to marker D20S478, found very close to the tissue transglutaminase gene. In one family, highest NPL (5.27; p=0.0039) and LOD (1.46) scores were observed to marker D10S1731. Suggestive linkage was also observed to two other regions on chromosomes 9 and 11. No evidence of linkage was observed to the HLA region in these families.

Conclusions: These results suggest that non-HLA genes might be responsible for the onset of coeliac disease in these Maltese families. Further investigations of the indicated loci are being performed by fine-mapping and sequencing of candidate genes.

P-008

Introduction of flow cytometric applications for diagnosis of haematological neoplasms in Malta

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Haematology Laboratory, St Luke's Hospital, G'Mangia.

Aim: To demonstrate the importance of flow cytometric applications as a tool for diagnosis, prognosis and monitoring of treatment in haematological malignancies.

Method: Flow cytometry involves the identification, classification and quantitation of cells according to their physical and antigenic characteristics. Flow cytometry facilitates determination of the stage of maturity of the cell. It determines the lineage of the cell whether myeloid, B-lymphoid or T-lymphoid. It detects aberrant expression of certain antigens on cells and also identifies biphenotypic neoplasms.

Since the introduction of flow cytometry at the Haematology Laboratory in Malta, 49 patients were diagnosed with a haematological malignancy. Out of the 49 patients, 26 patients were diagnosed with Acute Leukaemia, with 16 patients diagnosed of Acute Myeloblastic Leukaemia (AML) and 10 with Acute Lymphoblastic Leukaemia (ALL). Three (3) of the AML patients and 2 of the ALL patients showed aberrant antigenic expression. Twenty three (23) patients were diagnosed with Chronic Lyphoproliferative Disorder, which included B-cell lymphocytic leukaemia 18 patients, T-cell lymphocytic leukaemia 2 patients and Mantle Cell Lymphoma 3 patients. Twelve of these patients are also being monitored regularly for minimal residual disease.

Conclusion: From the data obtained it can be concluded that flow cytometry is an effective tool for achieving a rapid and specific diagnosis, whilst having also prognostic implications. It is also a valuable tool in patient monitoring since it is widely applied for the detection of minimal residual disease at different stages of treatment.

P-009

Incident reporting at the Pathology Department: a retrospective study

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Aims: An incident is defined as an unplanned event with the potential to cause injury (accident) or damage to personnel, materials, equipment, or property. Incidents in the Pathology Department were analysed and defined in order to attempt to put systems in place to prevent recurrence. It was also observed that the number of incidents in the Pathology Department decreased from 2004 to 2006 by 55%.

Methods: All incidents occurring at the Pathology Department between January 2004 and August 2006 were recorded and analysed using a standard data form. Incident investigations were also carried out to provide detailed information on each event. Incidents were classified according to their nature.

Results: A total of 80 incidents were recorded, of which the commonest was exposure to blood (36.3%) and the least common were incidents involving chemical exposure (2.5%). Near misses amounted to 18.8%.

Conclusion: Incidents are decreasing since 2004 possibly indicating good laboratory safety procedures and better understanding and adherence to departmental safety policies. Laboratory safety audits were also introduced.

P-010

Compatibility testing at St Luke's Hospital: used or abused?

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Aims: From January to August 2006 St Luke's Hospital Blood Bank performed over 30 thousand compatibility tests, among other services it provides. The usage of blood and the costs involved were determined.

Methods: Data on the laboratory information system (Progesa) were analysed.

Results: Of the total number of compatibility tests performed, 66.4% of units requested were not issued or were returned back to the blood bank. The cost involved to perform a compatibility test varies with the number of units requested. This involves a patient blood group that costs LM 1.25 and for each unit cross-matched the cost increases by LM 1.35.

Conclusion: When taking into consideration the time it takes to perform the test and the costs involved, changes to the current service provision ought to be considered. The introduction of techniques such as "Type and Screen" and "Group and Hold" may streamline the service and reduce the costs.

P-011

Managing obesity in Family Practice

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Recent data shows that Malta is amongst the leading countries in Obesity and Overweight prevalence across all age groups and sexes. What is more alarming is that recent studies suggest that rates of Obesity and Overweight are increasing. Physician intervention to encourage and assist obese patients to lose weight is warranted for health, social and even financial reasons.

Obesity experts from around the globe have developed various guidelines to help family practitioners assist their obese patients with losing weight. As primary care physicians look for ways to implement these guidelines with positive results, an understanding of weight management will be helpful. Diet and exercise combined have been shown to achieve the best results, both short- and long-term. Behavior modification, medications and surgery have an important role to play with careful patient selection. In this paper we address a number of weight management issues and how they can be tackled by family practitioners.

P-012

Clinical trials on medicinal products in Malta after EU accession

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Following EU Accession, Malta has to adopt EU Directives as part of its own legislation. Three such directives concern the conduct of clinical trials in European countries – 2001/20/EC, 2003/94/EC and 2005/28/EC. These directives, and the respective guidelines explaining their implementation, have considerably changed the way clinical trials are conducted. While the participation of Malta in clinical trials is to be encouraged for various reasons, these have to be regulated according to the legislation set out by the European Union. In themselves, what these Directives strive to achieve are mainly the safety of the study subject and the protection of the investigators from serious consequences. This poster aims to give a brief overview of these changes to prospective investigators and hospital administrators.

P-013

Location of residence and access to the medical consultant clinic at Qormi health centre

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Distance from residence to the point of delivery of a community service may be perceived as a barrier to referral and access to that service.

Objective: To examine the effect of distance from the place of residence to a health centre on the referral rate to the medical consultant clinic (MCC), and to identify any geographic barriers to attendance at the MCC as determined by the mode of transport to the clinic.

Design: Cross-sectional study.

Participants and setting: New case referrals to the MCC at Qormi health centre between January and June 2005.

Data collected: Date of clinic; age; sex; mode of transport to clinic - walking (approximate duration in minutes), motorised transport (car, bus, other); reason for choice of transport - to far to walk, unable to walk for medical reason, other reason.

Data analysis: New cases per unit population over time for the villages of Qormi, Siggiewi and Zebbug respectively; proportion of walking versus non-walking new cases for the village of Qormi.

Results: The rate of new case referrals per thousand populations of Qormi, Siggiewi and Zebbug were 4, 3.3 and 4.4 respectively (Chi-squared 3.81, p = 0.157). All patients from Siggiewi and Zebbug used motorised transport to access Qormi heatlh centre, with 68% opting for personal transport. 52% of patients from Qormi walked to the health centre, the majority taking up to ten minutes. The mean age (SD) of the patients who walked was 61.4 (11.2) years, and those who used motorised transport 55.7 (12.7) years (U = 7535, p = 0.023).

Conclusion: Distance to Qormi health centre is not a barrier and does not affect the rate of new case referrals to the MCC.

P-014

An audit of natural family planning training and usage

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[2]Department of Health Information

The Cana Movement has been training couples in Natural Family Planning (NFP) methods for a number of years, in its efforts to support and to strengthen the Maltese family. This audit aims to evaluate this education programme, including current use and perception of NFP methods. An anonymous postal survey was carried out among all those who took part in NFP courses between 1995 and 2004. In addition, results are compared to data drawn from the Health Interview Survey (HIS) carried out by the

Department of Health Information in 2002 on a representative sample of the Maltese population. This survey included a question on use of contraceptives or family planning methods. The great majority of the NFP respondent population (62%) had been married for 5 to 10 years, and aged mostly between 30 and 35 years. A large group of female respondents described themselves as housewives (49%). All women had achieved at least to secondary education. The top two occupational groups among male respondents were professionals (20%) and skilled labourers (19%). Most respondents (49%) reported having made extensive use of the learnt methods. There are no significant differences by age group (p=0.223). Similarly, 57% find NFP methods to be very reliable with no significant age difference (p=0.129), but this proportion peaks to 75% in 40-45 year old women.

HIS figures show an increasing proportion of respondents opting for NFP with increasing age, with a minimum of 19% of women aged between 16 and 25 years up to 34% between 46 and 55 years. Indeed, the three most popular methods in the younger two age groups: 16 to 25 and 26 to 35 years, are NFP, condoms and withdrawal, with the latter method being the most popular in the older age group and condoms being preferred by the younger group.

P-015

The applicability of the technology acceptance model to doctors in the Maltese Public Healthcare system

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Introduction: Information Technology (IT) plays a key role in the implementation of major reforms in healthcare. However, good knowledge of IT and availability of these systems does not equate directly with adoption in clinical practice. The Technology Acceptance Model (TAM), by Fred Davis, identified Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) as predictors of Usage and Acceptance.

Aim: To investigate the applicability of the TAM to Doctors in the Maltese Public Healthcare System.

Methods: The study population consisted of doctors employed within the Public Healthcare System. A postal survey and a focus group were used for data collection.

Results: There were 195 returned questionnaires (60% response). Computer availability was higher for consultants (61.4%) and doctors in public health (100%), but limited for junior doctors at ward level (8.1%). Less computers were available in primary care (20.8%), peripheral hospitals (14.3-33%) and out-patients (31% for consultants). Junior and Primary Care doctors had less access to e-mail accounts (64.9% and 54.2%) and the Internet (32.4% and 33.3%). Junior doctors were more likely to have had IT accreditation. The constructs of PEOU and PU predicted which doctors were more likely to use computers at their job. However adoption of the Patient Administration System (PAS) could not be predicted from Computer Usage or Satisfaction with the PAS.

Conclusions: The development of an IT strategy for health, increased access to computer systems and training programmes should be considered in the implementation of a new Hospital Information System for the Maltese Public Healthcare System.

P-016

The Medicines Authority: the competent authority in Malta responsible for the regulation of medicinal products for human use and related pharmaceutical activities

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The Medicines Authority is the competent regulatory authority in Malta responsible for the implementation of the relevant EU legislation governing the regulation of medicinal products for human use and the related pharmaceutical activities. Since it was established in 2003 the Medicines Authority has implemented a Quality Management System based on ISO standards and has integrated its operations within the EU regulatory framework for medicines. Positive outcomes from external audits have contributed to achievement of mutual respect from other EU competent authorities. There are three main areas of activities. Licensing Directorate activities cover the granting of authorisations and product licences for medicinal products to be placed on the market in Malta in accordance with the legislation. Applications are received through various procedures, including the National Procedure (including parallel importation) and various European procedures. The Medicines Authority is also responsible for the authorisation of clinical trials carried out in Malta. Post-Licensing Directorate activities cover post-marketing surveillance of medicinal products, including regulation of their advertising and promotion, pharmacovigilance, and processing of variations to and renewals of marketing authorisations. Inspectorate and Enforcement Directorate activities cover the inspection and licensing of the manufacture, distribution and sale of medicinal products (including regulation of active pharmaceutical ingredients), the inspection and licensing of public and retail pharmacies, the management of a product defect reporting system, coordination of all product recalls, the certification for export and issue of Certificates of Pharmaceutical Products and Good Manufacturing Practice certificates for locally manufactured medicinal products, and the enforcement of standards and of the provisions of Maltese and EU legislation.

P-017

The implementation of the EU Clinical Trials Directive 2001/20/EC in Malta

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Clinical trials refer to any investigation in human subjects intended to discover or verify the clinical, pharmacological and/or other pharmacodynamic effects of one or more investigational medicinal products, and/or to identify any adverse reactions to one or more investigational medicinal products and/or to study absorption, distribution, metabolism and excretion of one or more investigational medicinal products with the object of ascertaining their safety and/or efficacy.

The legal framework for the local regulations on clinical trials is set out in the European Clinical Trials Directive 2001/20/EC. The scope of this directive is to harmonise clinical trial requirements in the Member States of the European Union. It provides a framework for protecting people based on the Declaration of Helsinki and it also includes a regulatory means of Good Clinical Practice and Good Manufacturing Practice. It contains reference to issues such as the informed consent procedure, sets out special provisions for minors and disabled adults and also sets administrative provisions for clinical trials. The Directive is transposed in Legal Notice 490 of 2004. To conduct a clinical trial locally, one must submit separate applications to both the Medicines Authority and Health Ethics Committee and an authorization by the Medicines Authority and a positive opinion by the Health Ethics Committee are required. Further to this, the applicant and other concerned parties should abide by the local regulations and other requirements as deemed necessary by the Licensing Authority, including manufacture/ import authorisation of the investigational medicinal products.

Since the implementation of Legal Notice 490 of 2004, 6 applications were received, of which 4 applications were approved, 1 application withdrawn and 1 application is currently being assessed.

P-018

Clinical practice guidelines: user perception

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Background: Clinical practice guidelines (CPGs) are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. The aims of CPGs are to achieve improvements in quality and appropriateness of care and to maintain cost-effectiveness. They should also act as educational tools helping practitioners to implement the ever-increasing amount of evidence and opinion on best current practice. CPGs at the Department of

Medicine, St Luke's Hospital, Guardamangia, Malta have been available since January 2004. Local evidence regarding doctors' perception to the CPGs till now was lacking.

Aim and objectives: To study the perception of medical doctors and final year medical students to the medical CPGs.

Design: A comprehensive evaluation was performed using a questionnaire within the target group specified below to look into:

1. awareness of attitudes towards and barriers for the use of CPGs

2. access to and presentation of available CPGs

3. usefulness of available CPGs

Target group: Senior House Officers, Registrars, Senior Registrars and, Consultants of the Department of Medicine, House Officers on rotation, Casualty Officers and Final Year Medical Students.

Results: The results of this survey are currently being analysed and will be available shortly.

Conclusions: From the comments received in the questionnaire, this study will serve to seek ways on how to improve future CPGs, how to improve user compliance and adherence, and will also be used as a basis for further studies and research on particular areas of CPGs.

P-019

Atrial fibrillation following transcatheter closure of patent foramen ovale

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Paradoxical embolism due to the presence of patent foramen ovale is an accepted mechanism of ischaemic cryptogenic stroke. Transcatheter closure of the patent foramen is the logical, safe and accepted technique for the prevention of further neurological episodes in individuals who have had transient ischaemic events or stroke. Complications are infrequent and arrhythmias are occasionally mentioned in large series. We present three individuals who developed transient atrial fibrillation that was easily controlled with three months of amiodarone therapy. Our 5% transient fibrilliation rate is very similar to that documented in other series.

P-020

Isolated right ventricular outflow tract obstruction in an individual with William's syndrome

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[2]Birmingham Children's Hospital, UK.

William's syndrome is a rare condition that is associated with severe cardiovascular manifestations. We report a patient with William's syndrome who also has isolated right ventricular infundibular obstruction, an association that has not been previously reported, to the best of our knowledge. The defects usually encountered in William's syndrome include supravalvar aortic stenosis, coarctation, pulmonary branch stenosis and ventricular septal defect. Intervention for this young man has been undertaken.

P-021

The heart in science fiction

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St Luke's Hospital, Malta

Medicine and its practitioners are frequently used in mainstream literature and in subgenres of literature, either as protagonists or as useful backdrop. The heart is occasionally mentioned in science fiction (SF), not only as an important motif, but occasionally also enjoying a central role in the plot. In this article, I will therefore review some interesting aspects of the heart and cardiovascular system as utilised by SF authors, in both humans and in alien beings.

P-022

Low protein Z levels and the risk of thrombophilia

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Protein Z (PZ) is a vitamin K-dependent plasma protein whose significance in disease remains unknown. Low PZ levels were associated with ischaemic stroke in young adults, though this association is still not clear. PZ deficiency was also associated in women with a first episode of early foetal loss.

Aim: Detection of PZ antigen levels in patients who suffered a thrombophilic-event, including ischemic stroke, thromboembolic-events and recurrent miscarriage patients with two or more foetal losses.

Methods: 153 healthy individuals were tested for PZ levels and were included in our control group. A total of 52 thrombophilic patients were enrolled and included females with history of recurrent foetal loss; patients who suffered a thromboembolic-event; and patients who suffered an ischaemic-stroke. Patients were sampled 3 months after their thrombotic episode and none of them was on oral anticoagulation.

Results: Mean plasma PZ level in each group was comparable to that of control group. Difference in means was not found to be statistically significant ($P>0.05$). Occurance of PZ deficiency in each group was similar.

Conclusion: Our results are similar to those obtained by other researchers except for a lower mean PZ level in controls. PZ levels are normally distributed with a broad total range in normal individuals. No relation between PZ levels and gender nor age was found. PZ deficiency was detected in 12 females who had recurrent foetal loss, in 3 patients who suffered an ischaemic stroke and in 6 patients who suffered a thromboembolic-event. Further studies are required to clarify the relation of PZ levels and disease.

P-023

Insulin induced fatal hypoglycaemia in a type I diabetic with polyglandular autoimmune syndrome type IIS

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Department of Medicine, St Luke's Hospital

Hypoglycaemia is a well recognized and frequently encountered complication in insulin treated diabetic individuals. In adult type I diabetic patients, C-peptide negativity, a previous event of severe hypoglycaemia, patients' determination to reach normoglycaemia and a lower social class have been identified as risk factors for severe hypoglycaemia. In type I diabetes, the glucagon response is impaired, thereby reducing the efficiency of the counter-regulatory response. This failure of the glucagon response occurs within about five years of the onset of the disease. Type I diabetics with longer disease duration may also have an impaired cathecolamine response, further predisposing to hypoglycaemia and reducing symptomatic awareness.

The association of autoimmune Addison's disease with type I diabetes in patients with polyglandular autoimmune syndrome type II further compromises the physiological response to hypoglycaemia. We present a recent case of insulin induced fatal hypoglycaemic encephalopathy in one such Maltese patient.

P-024

Lack of sunlight exposure causing hypocalcaemia in a sun drenched archipelago

S Vella, MJ Cachia
Department of Medicine, St Luke's Hospital

Hypovitaminosis D is associated with poor dietary intake and inadequate sunlight exposure. Elderly institutionalized patients as well as veiled women are at an increased risk of hypovitaminosis D. Several studies have shown that vitamin D deficiency in elderly people enhances bone mass loss. Severe hypocalcaemia complicating hypovitaminosis D may manifest with tetany, and increases the risk of seizures.

We present a short series of such Maltese patients, highlighting an unexpected cause of hypocalcaemia in a sun drenched archipelago.

P-025

Thyroid status in subjects on thyroid replacement treatment

C Azzopardi
Department of Primary Health Care, Malta.

Aims and Objectives: To determine the proportion of subjects on thyroid replacement treatment (TRT) who achieve normal (biochemical) thyroid status, and to compare this to an audit standard set in the United Kingdom.

Design: Cross-sectional study.

Participants and setting: Subjects attending the medical consultant clnic at Qormi, Rabat and Birkirkara health centres for follow-up and monitoring of TRT.

Period: August 2003 to July 2004

Data collected:
1. laboratory results of routine thyroid function tests (TFT)
2. demographic data from the case notes - age, sex
3. date of TFT and date of follow-up visit
4. dose of thyroxine at the time of the TFT.

Data analysis: Results of TFTs were categorised into (i) normal thyroid stimulating hormone (TSH) level (ii) TSH outside normal reference range - high or low; free thyroxine and free tri-iodothyronine were also recorded when available.

Results: Two thirds of subjects on TRT had a TSH within the normal reference range (0.4-4 μU/ml).

Conclusion: This proportion is below the 90 per cent audit standard set in the United Kingdom for control of TRT, but is similar to results of audits published by community practices in the same country.

P-026

The incidence of inflammatory bowel disease in Malta between 1993 and 2005: a retrospective study

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Background: The primary aim of this study was to estimate the incidence of Inflammatory Bowel Disease (IBD) in Malta in a well defined population during a 13 year study period.

Method: Diagnostic criteria for Crohn's disease, Ulcerative colitis and indeterminate colitis were defined. A diagnosis of Inflammatory Bowel Disease was obtained from the histology reports of biopsies taken during colonoscopies performed at St Luke's Hospital between 1 January 1993 and 31 December 2005. No histology results were obtained from the private sector as this represents a negligible number. The date of diagnosis was defined as the date of first colonoscopy revealing signs of IBD.

Results: The standardised rates have been standardised using the direct method on the European Standard

Population. The mean incidence of Ulcerative Colitis in males was 8.16 per 100,000 per year and for females was 7.59 per 100,000 per year whilst that for Crohn's disease in males was 0.96 per 100,000 per year and for females 1.622 per 100,000 per year. Using linear regression, in Ulcerative colitis, there is an almost significant (p=0.069) increasing trend with time but no difference by gender (p=0.591). On the other hand, in Crohn's disease, there is no significant trend with time (p=0.555) but a significant difference by gender (p=0.078).

Conclusion: To our knowledge, this is the first Maltese study in which the incidence of IBD has been recorded. In Malta the incidence of Ulcerative Colitis is similar to the overall incidence of other European countries whilst the incidence of Crohn's Disease is lower; in fact the incidence of Crohn's Disease rates amongst the lowest in Europe similar to other Southern European Countries.

P-027

Monitoring thyroid function status in elderly patients on amiodarone

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Objectives: To evaluate whether elderly patients on amiodarone were having their thyroid function status monitored as recommended in the literature and to identify the frequency and type of thyroid function test abnormalities noted.

Methods: Patients on amiodarone were identified by examining the prescription charts and medical files of consecutive admissions into ZCH and residents at SVPR. Data was obtained on whether thyroid function tests had been checked at the start of the medication and every six months; the results of such tests carried out over the previous year; the clinical indication to prescribe the medication; and the course of action followed when results were abnormal.

Results: 1334 prescription charts were examined. 69 patients (5.2%) were on amiodarone. The most common clinical indication for the medication was atrial fibrillation (68.1%). As regards thyroid status, 39.1% of subjects had blood tests checked at the start of the medication but only 2.9% every 6 months. Although 75.4% had had their thyroid status checked over the previous year, 8.7% never had any thyroid function tests carried out whilst they were on the medication. In all 27.5% of subjects had thyroid gland dysfunction of which 13% had subclinical hypothyroidism, 11.6% clinical hypothyroidism and 2.9% clinical hyperthyroidism. All patients with abnormal results had been kept on amiodarone even when the arrhythmia had abated.

Conclusions: Thyroid dysfunction is a common side effect of amiodarone medication. The regular measurement of thyroid function tests, as recommended, should be adhered to in a stricter manner.

P-028

Non-alcoholic fatty liver disease (NAFLD) in Malta

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Aim: To determine the causes of liver enzyme derangement in patients referred to our gastroenterology clinic

Method: Retrospective audit, with 83 consecutive patients between August 2004 and July 2005.

Results: There were 51 male patients (61.4%) and 32 female patients (38.6%).

NAFLD was diagnosed in 45 patients (54.2%), 26 being males. The mean age was 50.4 years and the mean BMI was 31.2 kg/m^2. Ten patients were between 30-45 years of age. Four of these had raised triglycerides. 35 were older than 45 years. Ten of these were hypertensive; 6 had type 2 diabetes mellitus; 3 patients were hypertensive and had raised triglycerides; 2 patients were hypertensive, had type 2 DM and raised triglycerides. The other causes for derangement of liver enzymes were: a. Alcoholic liver disease (15.7%, Mean age - 52.6 years); b. Primary Biliary Cirrhosis (10.8%, mean age-59.8 years); c. Chronic Hepatitis C (7.2%, mean age - 58.5 years); d. Haemochromatosis (4.9%, mean age- 39.5 years); e. Autoimmune hepatitis (2.4%, mean age - 51.5 years); f. Gallstones (2.4%, mean age - 47 years); g. Chronic Hepatitis B and Haemochromatosis. (1.2%); h. drug-induced (1.2%). The mean BMI in the non-NAFLD group was 24.7 kg/m^2.

Conclusion: Our audit demonstrates that NAFLD was by far the most common cause for derangement of liver enzymes in this population. Its worldwide prevalence is estimated to vary between 3% and 24%. NAFLD is considered to be the hepatic manifestation of the metabolic syndrome. This may progress from steatosis to non-alcoholic steatohepatatis and its clinical consequences of cirrhosis and hepatocellular carcinoma. Thus it is important to understand this condition as a common burden of disease if effective strategies to control it are to be devised as part of public health initiatives.

P-029

Antibiotic resistance in the south-eastern Mediterranean: results from the ARMed Project

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Background: Antimicrobial resistance is increasing and brings with it the possibility of untreatable infections and a return to the pre-antibiotic era. Anecdotal data indicates that the threat is also significant in the south-eastern Mediterranean region yet few standardised studies have looked at this problem.

Methods: A project under the name of 'Antibiotic Resistance Surveillance & Control in the Mediterranean Region' (Acronym: ARMed) was initialised in January 2003 and is financed by the European Commission under INCO-Med of DG Research. This project extends European surveillance studies to southern and eastern Mediterranean partner countries so that both European and Mediterranean countries will benefit from the epidemiological analysis of antimicrobial resistance and improved policies on antibiotic consumption and infection control measures (website: www.St Luke's Hospital.gov.mt/armed).

Results: The database on the antimicrobial resistance component of the project, ARMed-EARSS, now contains information from 58 laboratories serving 66 hospitals in 9 countries: Algeria, Cyprus, Egypt, Jordan, Lebanon, Malta, Morocco, Tunisia and Turkey. Methicillin resistance in Staphylococcus aureus ranges from 13% to 57% in the participating countries. Penicillin resistant Streptococcus pneumoniae are less prevalent, with Jordan, Egypt, Lebanon and Algeria being the only countries where levels exceed 20%. There is considerable heterogeneity of resistance within Gram negative isolates, particularly concerning quinolones and extra-spectrum beta-lactamases.

Conclusion: Antimicrobial resistance data from the ARMed Project indicates that resistance in the Mediterranean region shows a significant heterogeneity with the south-eastern countries having prevalences which are on the whole equal or at times higher than that identified in the northern countries of the region.

P-030

An investigation into whether a combination of inspiratory muscle training and upper limb exercise improve outcomes in COPD patients

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Introduction: Dyspnoea and decreased capability in performing activities of daily living and exercise are common complaints chronic obstructive pulmonary disease patients present with to medical professionals. One of the main causes is respiratory muscle dysfunction and dysfunction caused by weak upper limbs on ventilatory muscles. It is surprising that no studies investigating a combination of these two aspects were retrieved. A combined programme of upper limb exercises and Inspiratory Muscle Training is worthy of consideration as improved outcomes may have significant clinical implications.

Aims: To determine any differences in respiratory muscle function, upper limb endurance and activity of daily living and dyspnoea scores between the control group and two exercise groups.

Method: 45 participants were recruited and allocated to three groups: one receiving Inspiratory Muscle Training, another Inspiratory Muscle Training with upper limb exercises and a control group receiving no exercise intervention. Each subject had their lung function, inspiratory muscle strength and endurance, exercise tolerance and dyspnoea rate measured before the start of the programme and after 8weeks. The London Chest Activities of Daily Living questionnaire was also administered. The first exercise group had 15 minutes of inspiratory muscle training at 30% their inspiratory muscle strength twice daily. The combination group had 15minutes of breathing sessions and upper limb training each.

Results: Preliminary results after 4 weeks of training for the exercise groups show significant improvements in all outcome measures.

Conclusions: The Initial data offers positive results. If the final results are on the same line, this will surely be an innovative treatment for Chronic Obstructive Pulmonary Disease patients in conjunction with medical treatment.

P-031

C2 cyclosporin therapeutic monitoring in kidney transplant recipients

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Cyclosporin (CsA) dislplays a narrow therapeutic range and a wide intra-interpatient pharmacokinetic variability, particularly in the absorption phase. Low oral biovavailability of CsA is recognised as a significant risk factor for acute transplant rejection and overexposure to CsA increases the risk of chronic allograft nephropathy. Measurement of CsA trough blood level (Co) is currently performed but recently, 2 hours post dose levels (C2) has been proposed as a superior tool for CsA monitoring.

The aim of the present study was to analyse the feasibility of introducing C2 monitoring in Malta and to compare the results of both Co and C2. In 40 kidney transplant recipients under the care of one nephrologist (30 cadaveric and 10 living-related) receiving CsA in association with other immunosuppressive drugs, Co + C2 were measured by using a monoclonal specific antibody radiommunoassay.

The following results were obtained.

1. C2 monitoring was readily accepted by Maltese transplants receipents and its implementation both in the hospital and out-patient settings went without a hitch.
2. A clear relationship between Co and C2 blood levels was observed.
3. CsA absorption is variable and C2 correlated better with the CsA dose (mg/kg) than Co.
4. Most patients at target Co were not at recommended target C2 concentrations.

Conclusion: C2 monitoring better defines the therapeutic range and helps to identify overexposure to CsA, potentially associated with nephrotoxicity. The transplant team is now familiar with C2 target levels with dose adjustments done according to C2 level.

P-032

Familial hypouricaemia associated with renal tubular uricosuria and uric acid calculi: a case report

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A 24-year-old otherwise healthy male presented with left ureteric colic, which subsided spontaneously. Ultrasound kidneys and IVP were both normal. Investigations however revealed marked hypouricaemia (plasma uric acid 57 umol/l). 24-hour urinary urate excretion was markedly elevated at 7.2 mmol/day. The fractional excretion of urate was 55% (normal <10%). No other metabolic or renal tubular abnormalites were recorded. 1 year later, the patient spontaneously passed a 6 mm calculus from the left kidney. The stone was composed entirely of uric acid. Plasma uric acid at this time was again very low at 71 umol/l. A survey of both parents and two siblings revealed that the patient's mother and sister had similar hypouricaemia (plasma uric acid 51 and 107 umol/l respectively), although they were entirely asymptomatic.

The findings in this subjects may be accounted for by a nearly complete tubular defect in the renal reabsorptive transport mechanism of urate. This condition is probably transmitted as an autosomal dominant trait. This is the first report, to the best of our knowledge, of familial hypouricaemia, hyperuricosuria and uric acid kidney stones in the Maltese population.

P-033

Estimating the glomerular filtration rate by creatinine clearance: 24 hour urine collection or formula?

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Quantifying the glomerular filtration rate (GFR) accurately is a prerequisite for diagnosing and treating patients with kidney disease. Estimating the creatinine clearance, itself a surrogate of the GFR, using formulae based on serum creatinine, is nowadays frequently recommended by nephrology societies. This method obviously spares the inconvenience to the patient of collecting a reliably complete 24-hour urine sample.

Aim: The aim of the study was to compare the traditional 24-hour creatinine clearance (24-HCC) measured at St Luke's Hospital laboratory with the creatinine clearance derived using the standard Cockcroft-Gault (CG) formula.

Methods: 21 adult patients (11 female, 10 male), affected by different kidney disease, and with renal function ranging from normality to advanced renal failure participated in the study.

Results: Perfect agreement between the 24-HCC and CG was seen in only 19% of patients. In the majority of patients, clearance readings were lower with the CG than with 24-HCC. This finding is at variance to what is reported in the literature, where the formula tends to overestimate the 24-HCC.

Discussion: In the local setting, a widespread discrepancy exists between values obtained by the two methods used to measure creatinine clearance. Possible reasons for this finding will be discussed.

P-034

Peritoneal dialysis drop-out: a single-physician experience

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Peritoneal dialysis (PD) is a well-established form of renal replacement therapy in uraemic patients. Within the Department of Medicine's Renal Unit, a multidisciplinary team composed of physician/surgeon/specialised nurses frequently succeed in employing PD as the first-choice modality in patients admitted to dialysis. However, despite continuous yearly improvements in every aspect of care of the PD patient, high drop-out rates still represent a major problem. This report, examining the causes of permanent drop-out from PD, is a single institution, single-physician experience with a large and complete set of patients over a 15-year period (1993 - Sept 2006).

All former PD patients (n=198) who for any reason stopped PD were retrospectively studied. Data was available and complete in every single patient. Of the study cohort, 42 patients died from various causes, mostly cardiac deaths, whilst still adequately performing PD. 29 patients received a functioning kidney transplant, and a further 5 witnessed a useful return of renal function. Naturally, in both instances, PD was discontinued.

In the remaining 122 patients, the causes of permanent PD drop-out (obviously necessitating a switch to chronic haemodialysis) were as follows: first but severe peritonitis (n =33), recurrent peritonitis (n=28), ultrafiltration failure and/or lack of solute clearance (n=26), necessary abdominal surgery (n= 7), PD catheter problems (n=11), inability to cope (n=8), and other (n=9).

Conclusion: PD-related infections and complications account for 50% of permanent PD drop-outs in the Maltese Islands. This report enhances our understanding of how best to improve PD patient care in the local setting. Optimal long-term management of the PD patient hinges on achievement of best demonstrated practices and prevention of complications, particularly infectious, associated with PD.

P-035

Dyslipidaemia in the Maltese chronic haemodialysis and peritoneal dialysis population

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Aim: To determine the prevalence of dyslipidaemia in the Maltese dialysis population and correlate this with variables known to influence such prevalence.

Method: 60 haemodialysis and 53 peritoneal dialysis patients undergoing dialysis during the first week of December 2002 had their fasting lipid profile checked during the same week. This was analyzed according to dialysis modality and diabetic status and correlated with time since commencement of dialysis, serum albumin and serum triglyceride levels.

Results: Patient age (57 and 60yrs) and time on dialysis (30.7 and 28.6mths) were similar for the HD and PD groups respectively. The prevalence of hypercholesterolaemia (total cholesterol > 5.0 and/or LDL > 3.0mm/l) and hypertriglyceridaemia (> 2.3mmol/l) was 68 % and 37% respectively. There was no statistically significant difference between the total cholesterol, LDL, HDL, triglyceride or albumin levels according to dialysis modality. Similarly, there was no difference between the same variables in diabetics and non-diabetics. The correlation coefficient between serum albumin and duration of dialysis was not significant but there was a positive correlation between serum albumin and total cholesterol.

Conclusion: The prevalence of dyslipidaemia is very high and uninfluenced by dialysis modality or diabetic status. The positive correlation between albumin and cholesterol reinforces the former's position as a surrogate marker of the dialysis patient's nutritional status. Since the nutritional status is the best marker of survival on dialysis it also explains why an elevated cholesterol level has been universally shown to be an indicator of improved survival on dialysis.

P-036

Calcium / phosphate control in the Maltese chronic haemodialysis population

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Aim: To determine the prevalence of hyperphosphataemia, hypercalcaemia and raised calcium x phosphate product in the Maltese haemodialysis (HD) population and compare this with recommended targets.

Methods: All 68 chronic HD patients under the care of one consultant nephrologist had a biochemical analysis during the first week of January 2006.

Results: 66% of patients had a corrected predialysis calcium level within the recommended target of 2.2-2.6mmol/l; 22% and 12% respectively had a level below and above this range. Only 44% had a normal phosphate level of 0.8-1.8mmol/l (recommended in the European Dialysis and Transplant Association Guidelines) but 63% fulfilled the less stringent Caring for Australians with Renal Impairment (CARI) Guidelines (< 2.2mmol/l). While 78% had a calcium x phosphate product below the maximum accepted level of 5.8$(mmol/l)^2$ only 47% had a product that was lower than the ideal upper level of 4.2$(mmol/l)^2$

Conclusion: The prevalence of hyperphosphataemia and a raised calcium x phosphate product in the Maltese HD population is high. This tends to be a problem in dialysis units worldwide. In addressing this problem one has to consider the compelling evidence implicating calcium based phosphate binders in the aetiology of vascular calcification. The latter has in turn been associated with increased cardiovascular morbidity and mortality. Hence the emphasis on the use on non-hypercalcaemic Vit D analogues and non-calcium based phosphate binders.

P-037

Is erectile dysfunction a sentinel symptom for cardiovascular autonomic neuropathy in patients with type 2 Diabetes ?

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Aim: To study whether there is a significant association between erectile dysfunction (ED) and cardiovascular autonomic neuropathy (CAN) in male patients suffering from Type 2 diabetes without evidence of overt cardiovascular disease and hypertension. The association of ED with left ventricular dysfunction was also assessed.

Methods: Patients suffering from Type 2 diabetes were recruited from the Diabetes Clinic. These patients had no history of neurological, renal or thyroid disease and did not suffer from hypertension. An elective stress test was performed and those with a negative test were assessed for autonomic erectile dysfunction, cardiovascular autonomic neuropathy (CAN) and left ventricular dysfunction. CAN was assessed using Expiratory:Inspiratory ratios, heart rate changes with the Valsava maneuver and with standing, and the systolic blood pressure response to standing. An echocardiogram was performed on each subject.

Results: A total of 22 patients entered the final stage of the study. Sixteen patients were excluded from the study at the various stages. 27.3% were found to be suffering from CAN while 43.5% were suffering from erectile dysfunction. Using the Fisher's Exact test it was found that in this sample there was no significant association between CAN and autonomic erectile dysfunction (p=1). 25% of patients with no erectile dysfunction had CAN, whilst 30% of patients with ED had CAN.

Conclusion: Unlike previous studies these results show that autonomic ED is not always associated with CAN and one must not assume that all patients with autonomic ED are suffering from CAN.

P-038

Visualization of hypoxic glial injury in white matter from transgenic mice - a morphometric and immunocytochemical study

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White matter injury is an important feature of several acute neurological diseases. To date, none of the immunohistochemical approaches for assessing oligodendrocyte (OL) damage have been entirely satisfactory. We investigated the usefulness of transgenic mice with oligodendrocyte-specific expression of GFP controlled by a proteolipid promoter (Plp-EGFP) to study the time course of injury during and after 30 min of oxygen-glucose deprivation (OGD). Acute coronal brain slices (400μm) including corpus callosum were transferred to an interface chamber and superfused with aCSF saturated with 95/5% O2/CO2 at 33°C. OGD was induced by switching to glucose-free aCSF bubbled with 95/5% N2/CO2. Within 1-2 hours there was widespread OL injury, demonstrated by loss of labeling with OL-specific antibody CC-1 (APC) and gain of pyknotic nuclei. Cytochrome c was released from mitochondria during OGD and diffused thereafter. Confocal visualization of GFP-expressing OLs revealed marked swelling of the nucleus and vacuole formation around the cytoplasm. By 2 hours of reperfusion some of the OLs lost their processes and extensive vacuoles were observed along their entire length. EM confirmed OL injury included swollen mitochondria, clumping of chromatin and cytoplasmic vacuoles. Our results demonstrate close correspondence between Plp-EGFP and EM assessment of OL morphology. The observed damage to OLs matches patterns of white matter injury in other models published in the scientific literature.

P-039

A young confused tourist on a hot sunny island

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Background: With recent emphasis on increased water intake during hot weather for the prevention of dehydration, there is a documented increase in cases of hyponatraemia related to excessive water intake. The most common symptoms related to cerebral oedema are changes in mental status, emesis, nausea and seizures.

Case Report: A 30-year old British tourist on holiday in Malta last June presented with a two day history of lethargy and confusion. He also complained of slight tremor and sweating. Due to the sweltering heat and wary of the risks of dehydration, the patient had drunk fifteen litres of water over the 48 hours prior to his admission to hospital. Physical examination was unremarkable as was CT scan of the brain. Electrolytes, however revealed a hyponatraemia of 114mmols/L. The patient was advised fluid restriction, and within a day the Sodium levels had improved to 129mmols/L. His electrolytes were frequently monitored to ensure that over rapid correction of Sodium did not occur, thus preventing the potential danger of osmotic myelinolysis.

Conclusion: Maintaining adequate hydration in hot weather is essential and of utmost importance but excessive fluid intake may lead to life-threatening hyponatraemia.

P-040

Severe hyponatraemia due to co-amilozide

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Background: Hyponatraemia is a recognized complication of fixed dose combinations of thiazides with Potassium- sparing diuretics due to the direct effect of these drugs on the distal nephrons. Mortality related to hyponatraemia may occur due to cerebral oedema but is more commonly due to a rapid correction of Sodium resulting in osmotic myelinolysis. This involves frequently symmetric, noninflammatory demyelination within the pons though in at least 10% of patients, demyelination also occurs in extrapontine regions.

Case report: A 76-year old lady presented with a 3 day history of lethargy, confusion and urinary incontinence. Only three days before, the patient had been discharged from an orthopaedic ward where she had required admission for lower limb traction. She had also recently been started on co-amilozide. Electrolytes revealed Sodium: 97mmols/L and Potassium: 2.8mmols/L. Co-amilozide was withdrawn, oral fluids restricted and an intravenous infusion of 0.9% saline with Potassium supplementation was set up at a 12 hourly rate whilst monitoring central venous pressure. Sodium was corrected at a rate that did not exceed 15 mmols per 24 hours. By ten days following admission, Sodium increased to 133mmols/L and the patient made a remarkable improvement. An MRI scan of the brain was carried out which ensured that there was no evidence of demyelination.

Conclusion: This was a case of hypovolaemic hyponatraemia. The use of such diuretics should be used cautiously in elderly patients and the possibility of hyponatraemia should be borne in mind in a patient presenting with vague symptoms and central nervous system disturbances..

P-041

Novel methods for symptom control in palliative care in Malta

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Aim: The introduction over the last year of several novel methods of symptom control by the author involving both invasive and non-invasive methods in terminally ill patients at the Palliative Care Clinic at Boffa Hospital is explained.

Methods: The data in this report was collected retrospectively from Procedure Lists and analysis of follow-up in patients' case notes. Patient confidentiality was maintained at all times. The invasive methods reviewed include the following:

a) long term epidural and intrathecal catheterisation

b) coeliac block for upper GIT malignancies

c) multilevel sympathetic ablation for lower GIT

d) hypogastric block for pelvic malignancies

e) chemical ablation of solitary metastasis

Non-invasive methods include pain management using new indications for old drugs (e.g. ketamine for intractable pain relief) that have been introduced.

Results: The use, mechanism of action and results of these methods in palliative control of pain in patients suffering from cancer is discussed.

Conclusion: The role of the multidisciplinary team with different specialities, including oncologists, palliative care physicians, anaesthetists, pharmacists, physiotherapists, nurses and members of other caring professions, in the management in both pre- and post-procedure phases is highlighted. The role of radiofrequency and chemical neuroablation as well as neurolytic and non-neurolytic nerve blocks is discussed.

P-042

Patient satisfaction with rheumatology services

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Client satisfaction measures the extent to which a client's expectations for a good service are met. A proper measure of satisfaction includes a separate assessment of both client expectations and the quality of service provided.

Quality of service is a multi-dimensional concept. A questionnaire was set up to judge quality of service provided at the Rheumatology clinic and included the following dimensions: tangible variables, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding of client.

All patients who attended the clinic during November and December 2004 were provided with an English or Maltese version of the questionnaire that was fully explained by the clinic nurse. They were then asked to complete the questionnaire anonymously while waiting for their visit.

52 patients answered the questionnaire. 85% (44) of patients were female and the majority 86.5% (45) were above the age of 40 years.

An overwhelming majority of the patients were satisfied (45.6%) or very satisfied (52%) with the overall service provided.

This study demonstrated that although the majority of patients were satisfied with the overall service, an improvement in the quality / provision of support services was necessary.

P-043

Nitritoid reactions: occurrence in rheumatoid arthrtis patients

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Background: Nitritoid reactions are vasomotor reactions occurring following the administration of sodium aurothiomalate (gold).

Objective: To report the occurrence of nitritoid reactions in rheumatoid arthritits patients attending the Gold Clinic at St Luke's Hospital.

Method: Patients who developed nitritoid reactions were identified by the Rheumatology Nurse. Case notes, review of their medication was taken in order to identify risk factors.

Results: Out of 38 patients on gold injections 5 (13.2%) developed nitritoid reactions. Four were females and one was male. Age range at onset of reaction was 54-73 years (mean 65.2, SD: 7.46). Duration of gold therapy prior to nitritiod reaction ranged from 1 week to 7 years 8 months. None of the patients had previously experienced vasomotor side effects. Two patients developed the reaction following their first 50mg dose. One patient developed the nitritiod reaction with 50mg first dose after having stopped treatment for 12 months due to disease remission. Two patients developed the reaction following 50mg and 25mg doses respectively. All 5 patients were hypertensive. Four patients were on angiotensin converting enzyme inhibitors at the time of the reaction. One patient had just started therapy with an angiotensin converting enzyme inhibitor. Three patients were on an angiotensin converting enzyme inhibitor in combination with other anti-hypertensive drugs and had severe nitritoid reactions.

Conclusion: Nitritoid reactions are more likely to occur with concomittant administration of angiotensin converting enzyme inhibitors and gold. Parameters such as blood pressure and ECGs are required during recovery of the patient.

P-044

Use of the TNF blocker etanercept in a case of refractory Takayasu's arteritis

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Takayasu's arteritis is a chronic inflammatory disease of unknown aetiology that affects predominantly the aorta and its major branches. The clinical features vary depending on which arteries are involved.

We present the case of a female patient who was diagnosed with this condition at the age of 27 years. The brunt of her disease fell on the arch of the aorta and coronary arteries resulting in aortic valve incompetence and recurrent symptoms of angina pectoris that eventually necessitated aortic valve replacement surgery and coronary artery bypass grafting. There was a satisfactory response but 12 years later anginal symptoms recurred. At this stage immunosuppressant treatment was administered with intravenous pulsed methylprednisolone and cyclophosphamide. This resulted in symptomatic relief but 10 years later there was a further recurrence of angina that persisted despite an angioplasty to one of the stenosed graft vessels and maximisation of antianginal treatment.

Considering the effectiveness of biological agents such as etanercept as potent suppressors of autoimmune inflammatory disease and based on a few scant reports in the literature about their use in refractory Takayasu's arteritis, it was decided to add etanercept to this patient's treatment. The effect was dramatic with complete resolution of symptoms and a reduction in the ESR.

This is the first time a biological agent has been used to treat Takayasu's arteritis in Malta and adds to the growing literature on the efficacy of these agents in this condition.

P-045

Severe osteoporosis due to undiagnosed Coeliac disease: 3 case reports in Maltese women

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Osteoporosis is defined as a bone mineral density of less than 2.5 standard deviations below the mean for young adult white women. Dual x-ray absorptiometry (DEXA) is widely used to measure bone density. However, it does not help in identifying the cause of the decreased bone mineral density. The majority of men and pre-menopausal women as well as one-fifth of post-menopausal women will have an underlying cause for their osteoporosis. In such cases it is important that treatment is directed at the underlying cause. Coeliac disease is a gluten-sensitive enteropathy and is an established cause of osteoporosis. It is increasingly being diagnosed in asymptomatic patients. We present three cases of postmenopausal women who were referred to our unit with severe osteoporosis. One patient had been treated with oral corticosteroids and had an early menopause. The second

patient had an early menopause and a mild anaemia. The third patient had already been treated with HRT, 1αcalcidol and oral bisphosphonates but remained severely osteoporotic. All patients had positive anti-endomysial antibodies and duodenal biopsy confirmed the presence of coeliac disease in all three patients. They were instructed to follow a gluten-free diet and were treated with intravenous pamidronate, calcium and vitamin D. These cases demonstrate the importance and necessity of a careful evaluation of all patients referred for the management of osteoporosis as otherwise underlying causes may be missed.

P-046

Experience with leflunomide in a Maltese cohort of patients: a preliminary report

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Leflunomide is an oral pyrimidine synthesis inhibitor that belongs to the disease-modifying antirheumatic class of drugs. It has been shown to have significant efficacy in the treatment of various rheumatological conditions. Leflunomide was introduced to the local scene in 2002, initially for the treatment of refractory cases of rheumatoid arthritis. It was later also used for the treatment of psoriatic arthritis. The clinical records of the patients treated with leflunomide at the rheumatology clinic between 2002 and 2006 were reviewed. Data collected included the indications for treatment, the dosages used, and patient outcomes and tolerability. Adherence to the local guidelines for drug monitoring that were formulated in 2003 was also reviewed. The results are presented and discussed, and the literature is reviewed.

P-047

Lupus nephritis treated with rituximab: a case report

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Rituximab is a chimeric monoclonal antibody that targets CD20 surface markers present on B cells resulting in B cell depletion. In systemic lupus erythematosus (SLE) the loss of B-cell tolerance is a central feature. Rituximab has been used for several years to treat certain types of B-cell lymphomas. In more recent years, it has been used in patients with SLE and other autoimmune diseases and the results have been encouraging. We present a 23 year old girl with WHO Class IV lupus nephritis showing marked activity affecting all glomeruli but with minimal chronic damage. The nephritis was refractory to cyclophosphamide and the patient could not tolerate mycophenolate mofetil. She was treated successfully with Rituximab. This is the first case of Lupus Nephritis treated with Rituximab in Malta. The literature is reviewed.

P-048

Bronchiolitis obliterans in a Maltese woman with Sjögren's syndrome: a case report

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Sjögren's syndrome (SS) is a relatively common, slowly progressive, systemic autoimmune disorder that characteristically affects the exocrine glands and causes dryness of the eyes and mouth. It is a multi-system disorder that may affect the lungs, liver, kidneys, vasculature and blood. The histological hallmark of all organs affected is a potentially progressive lymphocytic infiltration. Primary SS occurs alone while secondary SS occurs in association with other systemic autoimmune rheumatic diseases. Pulmonary involvement is common in SS but is rarely clinically important. Any part of the respiratory tract may be affected by lymphocytic infiltration, although the most commonly encountered pathology is interstitial lung disease and airways disease. We report the case of a 44 year old lady with a ten year history of primary Sjogren's who presented with recurrent parotid swelling, sicca symptoms, symmetrical joint pains, early morning stiffness, Raynaud's phenomenon, pleuritic chest pain, dyspnoea, weight loss and fever. Her clinical condition deteriorated despite treatment with corticosteroids. Bronchiolitis obliterans was diagnosed on lung biopsy. She responded well to treatment with 5 pulses of cyclophosphamide and methylprednisolone. This was subsequently changed to azathioprine and she has remained in remission. The literature of pulmonary involvement in SS is reviewed.

P-049

Erdheim-Chester disease in a Maltese patient: a case report

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Erdheim-Chester disease is a very rare systemic non-Langerhans histiocytosis of unknown aetiology. Less than 200 cases have been reported in the literature. The affected organs are infiltrated with lipid-laden macrophages, multi-nucleated giant cells and an inflammatory infiltrate of histiocytes and lymphocytes. Bone involvement is a hallmark feature, and typically this is symmetrical with metaphysial and diaphyseal involvement. This pattern may be seen on bone scintigaraphy and is pathognomonic of the disease. Other organs may be affected and these include the skin, the central nervous system, the heart, the lungs, the retroperitoneum and rarely the orbits. Symptomatology and prognosis depends on the extent of organ involvement. The disease has a high mortality due to resultant end-organ failure. We present the case of a 51 year old gentleman who was investigated for a one year history of a lesion in the lower gum. This had gradually increased in size and further lesions had appeared. He also complained of abdominal pain. Biopsy of the lesion showed a submucoid xanthoma. CT Scan of the Chest and Abdomen showed a benign looking right lower costal lesion, and a soft tissue mesenteric tumour with perinephric exudation and ascites. Bone scintigraphy showed symmetrical involvement in the long bones as is typical in Erdheim-Chester disease as well as increased uptake in the mandible, maxilla and the seventh and eighth right ribs. The patient received radiotherapy to the gum lesions and is being treated with interferon. This is the first case diagnosed in Malta.

P-050

The role of exercise in the weight management of obesity

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The importance of obesity prevention and treatment grows as the prevalence of obesity increases in Malta. Obesity is a chronic metabolic disease that is associated with increased morbidity and mortality. There is strong evidence that weight loss in obese individuals improves risk factors for diabetes and CHD, reduce blood pressure in both overweight hypertensive and non hypertensive individuals, reduce serum TG levels, increase high-density lipoprotein cholesterol levels, and may produce some reduction in low-density lipoprotein cholesterol concentrations. However, what is of interest is that even if weight loss is minimal, obese individuals showing a good level of cardiorespiratory fitness are at less risk for cardiovascular mortality than lean but poorly fit subjects. The clinician should therefore explain to the patient the role of exercise in the improvement of the metabolic profile rather than on weight loss alone. Realistic goals should be set between the clinician and the patient, with a weight loss of approximately 0.5kg a week. It should be kept in mind that since it generally takes years to become overweight or obese, it will require time and perseverance to reach the established target weight. Exercise should be introduced slowly and at low intensity with a combination of both aerobic and resistance elements. The ultimate aim is to have exercise as an integral part of the patient's lifestyle.

P-051

Nurse led clinics

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Nurse led clinics have developed in response to the dynamic changes in healthcare delivery. They have mainly been introduced to support intermediate care following the acute phase of disease. Nurse led care varies from highly driven focused tasks such as cardioversion and smoking cessation to more diverse challenges such as first contact care and rehabilitation and entails nurses working independently or interdependently with the medical and other health professionals. Studies have shown that patients demonstrated significantly higher scores in overall satisfaction, and provision of information, access, and even symptom control. These clinics have resulted in reduced waiting times, as well as improved quality of care, as patients have reported being more comfortable and having more opportunity to talk to nurses about quality of life issues.

Nurses leading these clinics need to be clinically competent, with special emphasis on assessing skills, in order to be able to refer patients according to need, and communication skills, as the majority of time is spent counseling patients. They should also be highly trained in research, and education in order to keep up to date with information, as well as educating patients and their careers.

Locally this service is being gradually introduced in areas such as stoma care, rheumatology, breast care, and wound care. Although formal evaluation of these clinics is yet to be undertaken, the informal reports demonstrate patient satisfaction, as well as increased job satisfaction. However, there is still a long way to go, to ensure that more patients will benefit from these services, as well as to increase awareness of the role of these clinics.

P-052

Outcome of endoprosthetic replacement for proximal humeral metastasis

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Whilst the treatment of primary tumours of the proximal humerus with endoprosthetic replacement is generally accepted, that of metastatic lesions remains controversial. Poor prognosis is usually accepted once the diagnosis of metastatic disease is confirmed and such patients are treated with radiotherapy and skeletal stabilisation when possible. We retrospectively reviewed the outcome of patients with proximal humeral metastases who underwent endoprosthetic replacement.

Average follow up was 26 months. The mean time from primary diagnosis to surgery was 118 months. With regards to survival 66% of our patients were alive at 6 months and 41% were alive at 2 years.

All patients had excellent pain relief. Shoulder function was satisfactory to good with most patients lacking elevation beyond 90 degrees. Hand and elbow function was preserved in all patients

It is well known that the probability of implant failure increases with time in these patients. In our experience endoprosthetic replacement should be considered for proximal humeral metastases. This form of treatment is preferred to skeletal stabilisation in well selected cases.

P-053

A seven-year epidemiological survey of slipped upper femoral epiphyses in the Maltese islands

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Slipped upper femoral epiphysis (SUFE) is an acute/acute on chronic condition involving separation of the epiphysis and metaphysis through the epiphyseal plate of the femur occurring at or around puberty. Various characteristics of SUFE have already been described in the literature, emphasising the increased incidence in males (in whom the condition occurs at a higher mean age), it's laterality and seasonality.

The hypothesis at the onset of this study was to test whether there is a greater than expected incidence of SUFE in Maltese archipelago and in Maltese female adolescents, and whether there is a higher incidence in the summer months than would be expected from the literature.

Fifty-four consecutive cases of SUFE presenting over a seven-year period to the island's main acute general hospital were reviewed retrospectively in order to obtain crude incidence, sex incidence, mean age at onset, laterality and seasonal distribution.

A crude incidence of 2.08/100,000 population was obtained with an observed male:female ratio of 2:1 which is comparable with the literature. Mean age at onset was 12.6 years in males and 11.9 years in females. Seasonal distribution revealed an unexpected higher incidence in the predominantly winter months.

P-054

Traumatic transverse fracture of the sacrum: a case report

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Fractures of the sacrum are rare and usually occur after significant spinal axial loading. Transverse fractures of the sacrum are even rarer and neurological deficit may accompany these fractures. We report a case of polytrauma resulting in bilateral fractured tibia and a transverse sacral fracture with neurological damage. The tibial fractures were treated surgically whilst a conservative approach was adopted for the sacral fracture.

In the literature results of operative decompression appear debatable and opting for conservative treatment has been advocated in a number of studies.

P-055

Poland Syndrome: a case presentation

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Poland syndrome is an unusual congenital unilateral anomaly of the chest wall with agenesis or dysplasia of the anterior ribs and costal cartilages, absence of pectoralis major and pectoralis minor muscles, breast deformities as well as occasional hand defects.

The case of a 9-year-old girl suffering from this condition is presented and treatment options are discussed.

Current literature on Poland Syndrome is reviewed.

P-056

The development of guidelines for primary urethral catheterisation

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Primary urethral catheterisation is a very common procedure undertaken daily. It may be associated with a significant degree of avoidable patient inconvenience and morbidity if the technique and/or catheter used are inappropriate. Hence the need for up to date, evidence based, and concise set of guidelines aimed particularly at nurses and medical officers in the Accident and Emergency Department, on the wards, in the operating theatre, and in the primary care setting where this procedure is routinely carried out.

The aim of this protocol is to provide a clear set of recommendations as to when nurses should be carrying out primary catheterisation, and when they should seek help from medical officers and surgical residents, as well as when senior urological help should be sought. Other recommendations include the choice of catheter that should be used, with respect to catheter type and material, size and length; depending on the various indications

for primary urethral catheterisation. Also included is a detailed technique of safe urethral catheterisation as well as tips to help overcome certain difficulties encountered.

The recommendations in these guidelines were formulated after an extensive literature review and discussion with the concerned parties.

P-057

A retrospective audit of the undergraduate surgical logbook: Part 1 of 3

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Background: The Faculty of Surgery has recently initiated a scheme whereby students in their Final years of the MD course are required to complete 33 surgical case studies by the end of their 5th year. The cases are spread out over the three-year final course period and one case each year must be an in Departmenth study. The final casebook serves both as an incentive for students to carry out undergraduate case studies as well as a Faculty record of the said undergraduate's work.

Aim: To carry out a retrospective study of a number of such casebooks, taken from the class graduated in 2006 (the first set of students benefiting from this scheme).

Method: This is the first part of a three year study. Our aim is to carry out a comprehensive quantitative and qualitative study outlining the various cases under study, categorising them into specialties chosen, level of detail and type of operation, amongst others.

Results and Conclusions: This three-year study is chiefly concerned with auditing the casebooks under study, thus being able to propose any relevant changes and improvements to the current scheme. The results may also be implemented in suggesting any amendments in surgical areas, which the studies prove to be lagging behind others. Both the conclusions and suggestions will be presented in the form of a poster.

P-058

The effectiveness of analgesic regimes in renal colic

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Background: Renal colic is a well known cause for acute severe pain. Its incidence peaks during the summer months in Malta due to relative dehydration that facilitates stone formation.

Objective: The objective of this study is to assess the effectiveness of available analgesia in the pain relief of renal colic in patients. The effectiveness and encountered side effects of the different types of analgesia used are compared.

Method: Participants included in this study will involve patients admitted to St Luke's Hospital with pain attributed to acute renal colic during the holiday summer months. Patients where renal colic is not diagnosed by imaging as a cause of the pain are excluded. The Visual Analog Scale will be used to assess the patient's perception of pain and its relief.

Results: The results are compared to similar studies to review our experience, identify the more effective strategies and suggest optimum treatment of renal colic effecting more effective pain relief in renal colic.

P-059

Surgical ablation with bipolar radiofrequency energy as treatment for the elimination of atrial fibrillation in patients undergoing concomitant cardiac surgery

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Aim: The aim of this study is to present a single-centre experience of using a bipolar radiofrequency device to eliminate atrial fibrillation (AF) in patients undergoing surgery for co-existing cardiac conditions.

Methods: Between April 2004 and July 2006, 11 patients underwent ablation in an attempt to eliminate AF during surgery to treat another disorder. 7 patients underwent mitral valve repair for mitral regurgitation - 4 of these required additional coronary bypass grafts and another, a tricuspid repair. 1 patient underwent an aortic valve replacement for aortic stenosis, 2 patients, a mitral valve replacement for rheumatic and congenital mitral valve disease, and 1 other, bypass grafts to treat multivessel coronary disease. AF was permanent in 9, persistent in 1 and paroxysmal in another. In 2 patients, ablation lines were placed in the left atrium and in the other 9, in both left and right.

Results: The bipolar device was easy to use and ablation lines to both atria were completed in 20 minutes. One patient died in hospital from sepsis and multiorgan failure. We have post 180 day rhythm data in 5 patients - 4 are in sinus rhythm (1 required cardioversion from atrial flutter) and 1 patient is back in permanent AF. A further patient is in sinus rhythm on day 67 having required cardioversion from AF on day 35.

Conclusion: Radiofrequency ablation with a bipolar device is easy and effective. Further long-term studies are required to see whether sinus rhythm is maintained and whether anticoagulation treatment can be withdrawn safely.

P-060

Reconstruction with temporalis muscle flap after total maxillectomy with orbital exenteration for resection of an extensive maxillary antral squamous cell carcinoma

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This is a case report of a 62-year old male who presented with a one month history of left sided facial pain and occasional epistaxis. Subsequently, he was diagnosed with a squamous cell carcinoma (SCC) of the left maxillary antrum, with involvement of the hard palate, orbital floor periosteum, medial and inferior rectus muscles, left ethmoid complex and left infratemporal fossa. This tumour was staged as T4, N0, M0.

A total maxillectomy with orbital exenteration were performed for surgical resection of the tumour, and using the left temporalis muscle, a flap was fashioned for the reconstruction of the facial defect.

This flap represented a good solution for reconstruction as it provided copious, well-vascularised tissue for the obliteration of the total maxillectomy and orbital exenteration cavities. Temporalis muscle flap is considered a very reliable technique with low complication rates and few donor site problems, making it a safe and technically easy flap, which is preferred for the reconstruction of craniofacial defects after resective tumour surgery.

P-061

Comparison of inguino-vaginal fascial sling with synthetic transvaginal slingplasty for genuine stress incontinence

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Objectives: The use of an autogenic material for the suspension of a bladder neck using the traditional sling procedure is compared with the new technique using synthetic multifilament polypropelene mesh tape for tension free vaginal sling procedure.

Method: In this study both the autogenic sling and the synthetic multifilament polypropelene mesh tape were inserted retropubically using the same blunt tipped tunneller device. Through the suprapubic approach, a fascial strip is dissected from the aponeurosis of the external oblique muscle using a plastic rounded tip tunnelller the fascial strip is threaded retropubically. Both fascial strips are then plicated beneath the mid-urethra.

The tunnelller is introduced paraurethrally through a midline incision at the level of the mid-urethra. In the synthetic mesh slingplasty group the tape is passed through the submucosal tunnel and brought up through a small abdominal incision. In both groups, the midline incision is closed using absorbable sutures. No vaginal packing was performed in either group.

Results: The inguinovaginal fascial sling for genuine stress incontinence involves a laparotomy and delayed discharge from hospital compared to intravaginal synthetic mesh slingplasty which can be done as a day surgery. There were no intraoperative or postoperative complications. Ultrasonography for residual post void measurements was performed prior to discharge and four weeks post operatively. There was no post operative urinary retention, no mesh erosions and no urinary urgency reported in both groups. The tension free vaginal sling provides mid-urethral support during increasing abdominal pressure and less risk of voiding disfunction and urinary retention.

P-062

Gallstone ileus: pictorial review of CT scan findings in a series of local cases

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Gallstone ileus is an uncommon cause of small bowel obstruction representing 3% in all age groups. However, it is the cause for 25% of small bowel obstructions in patients over 65. It is an important clinical problem with mortality rates as high as 27% being reported. The classical plain film findings are described as Rigler's triad and include features of small bowel obstruction, gas in the biliary tree and the presence of an ectopic gall stone. This triad of findings is only seen in 10% of cases on plain film with 2 signs seen in 40-70% of cases. CT scan has taken a major role in investigating small bowel obstruction with gallstone ileus often being diagnosed when no suspicious signs were identified on the plain film. The above signs described are identified in a larger number of cases on CT scan (77-93%). Other features on CT include; abnormality of the gallbladder and duodenum, identification of the cholecysto-digestive fistula, identification of the transition point at the site of the gallstone, accurate size of the gallstone and features of bowel perforation and ischaemia. Following a series of cases of gallstone ileus in our institution, the aim of this poster is to demonstrate a pictorial review of the diagnostic signs on CT scan.

P-063

Abuse (physical and verbal) of doctors who work in the Accident and Emergency (A&E) department of St Luke's Hospital

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Aim: To quantify the level of abuse suffered by doctors working in A&E.

Method: All doctors working in the A&E department during August and September were asked to answer a questionnaire about abuse by patients/ general public. This questionnaire was based upon a similar one designed by the Royal College of Nurses to be able to have comparable results. Doctors working in paediatric casualty have separate results.

Results: The response rate was 87.5% (35/40) 19 males and 16 females.

Results show that 94.286% of doctors working at A&E Department suffered some sort of abuse, over the past year.

5 of the current doctors working in A&E have reported physical abuse. 4 of these over the past 3 years.

Only 4 doctors did something about the physical abuse and only 1 was satisfied with the outcome.

Results (paediatric casualty): The response rate here was 76%. 58% reported harassment, 68% reported verbal abuse and one doctor claimed physical assault in the last 12 months.

Conclusions: The level of abuse of doctors is very high. Verbal abuse is at a particularly high level. A large amount of abuse goes unreported. Of the abuse that is reported, the level of satisfaction with the outcome is low.

P-064

Bupivacaine infiltration and multimodal analgesia during gynaecological laparoscopy

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Objectives: The use of local anaesthesia, namely bupivacaine intraoperative wound infiltration is compared with the use of non-steroidal anti-inflammatory analgesics in patients undergoing gynaecological laparoscopy either for diagnostic or therapeutic purposes.

Method: In one hundred and twenty women undergoing laparoscopy, either as a diagnostic investigation of infertility or during thereapeutic electrocautery of endometriosis, were randomly allocated to treatment by bupivicaine 0.5% wound infiltration or by diclofenac 100mg suppository. All patients were administered 1.5g paracetamol rectal suppository prior to starting the operative procedure. Patients undergoing laparoscopic adhesiolysis and patient undergoing aspiration of ovarian cyst were also included. The outcome was established by assessing the degree of patient satisfaction, the need for other forms of analgesia such as pethidine intramuscular injections, reduction in time spent in recovery room and rapid recovery to a state of post anaesthetic street fitness that is early discharge post-operatively.

Results: In the bupivicaine group, there was a reduction in the need for post-operative intramuscular pethidine, a higher degree of patient satisfaction, a reduction in the time spent in the recovery room. The recovery time for the patient to be discharged from the ward was not dependent on medical factors in most cases, but there was an earlier recovery to a state of post-anaesthetic street fitness in the bupivicaine group.

P-065

An audit of threatened miscarriage as a predictor of obstetric outcome in Malta

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Objective: To investigate prospectively the risk of adverse pregnancy outcome in women presenting with first-trimester threatened miscarriage.

Methods: A retrospective cohort study was performed on women presenting with bleeding during their first trimester at the Gynae Admission Room (St Luke's Hospital) during 2004. Main outcome measures included gestational age and weight at delivery and incidence of adverse pregnancy outcome. Data were analyzed by univariate and multivariate statistical methods.

Expected results: Women with threatened miscarriage are usually at a higher risk of premature delivery, when compared to normal pregnancies. In addition, they were also at a higher risk of preterm prelabour rupture of membranes. Other outcomes that have been linked to threatened miscarriage in the literature include antepartum haemorrhage, elective caesarian sections, manual removal of placenta, and malpresentation.

Conclusions: This study aims to establish whether, in the Maltese population, patients presenting with a threatened miscarriage during early pregnancy are at a high risk for adverse pregnancy outcome. If so, such patients would qualify for closer surveillance up till delivery.

P-066

The role of TNF-alpha in pregnancy loss: a review

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TNF-alpha is synthesized throughout the female reproductive tract, in

the placenta and embryo. The expression of this gene is influenced by development, female sex steroid hormones, and lipopolysaccharide. The differential expression of the two species of TNF receptors is regulated by female sex steroid hormones, and this partly determines the functions of TNF-alpha. TNF-alpha is a potent, multifunctional cytokine in autocrine and paracrine processes central to reproduction, including gamete and follicle and luteal development, steroidogenesis, uterine cyclicity, placental differentiation, development of the embryo, and parturition.

Evidence suggests the existence of a range of CD4+ T-helper mediated responses. The two major subsets of these cells: Th1 and Th2. These have different immune responses via different patterns of cytokine production. Studies on murine and human pregnancy show a strong association between maternal Th1-type immunity and pregnancy loss on one hand, and, on the other hand, Th2-type immunity (together with TGF-beta secreted by Th3 cells) and successful pregnancy. It has been shown that there is a pro-type 2 shift in ratios of cytokine expression at the maternal-fetal interface in women with normal pregnancy as compared to women with recurrent spontaneous abortion.

Current literature shows that TNF-alpha, IFN-gamma and natural killer cells cannot induce miscarriage separately, but a Th1-NK-macrophage triad is known to bring about miscarriage, which can in turn be suppressed by a Th2 cytokine response

P-067

Intervertebral disc height correlation with bone density and demographic data of postmenopausal women with osteoporotic vertebral fractures

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Objectives: To assess correlations of Intervertebral disc height with bone density and demographic data of postmenopausal women.

Methods: Two hundred and fifty seven women were collected randomly from a large directory in a data base of a bone density unit.

Results: 257 Women were divided in five groups according to the menopausal/menstrual status. Forty seven (47) menopausal women were on HRT, 77 women were untreated menopausal women, 21 women were on bisphosphonates, 30 women were on calcium supplements, 44 women were premenopausal and 38 women had confirmed vertebral fractures. All women with fractures had low T-scores in the osteoporotic range. Age and weight difference were noted across groups and statistical. Correction was made for these differences.

Age showed the most consistent negative correlation with disc height throughout all the groups of women. Correlations were also borne out with the height and weight variables. Bone density showed a significant correlation with disc height (R= 0.499 P< 0.0001). The premenopausal group showed the most significant correlation between the disc height and T-score (R= 0.47 P < 0.01) followed by the untreated menopausal group (R= 0.25 P < 0.05).

Conclusion: Disc height showed strong correlation with age, weight and height. The premenopausal group maintained a significant correlation with bone density. Disc degeneration appears to be significantly influenced by the age and weight status and this may partially explain the observed height loss in postmenopausal women.

The correlation in the premenopausal women suggests a close coupling between bone density and disc height. With the onset of the menopause this coupling mechanism may be disrupted increasing the risk for osteoporosis and subsequent fracture.

P-068

Iliac vessel wall thickness: an atherosclerotic marker in menopausal women

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Objective: to assess iliac vessel wall thickness in five groups of women who differed in age, menstrual status and whether the menopausal groups were treated with HRT.

Method: A 3.5MHz ultrasound was used to assess the combined vessel wall thickness of the right iliac artery inner wall and vein outer wall. Three groups of women were menopausal and were distinguished from each other by the (a) administration of hormone replacement therapy (Conjugated Oestrogens) (N=32), (b) a group with high risk factors for atherosclerosis (N=14) and (c) an untreated low risk group of postmenopausal women (N=9). Two other groups of menstrual women without any risk factors for atherosclerosis were also recruited. One group of menstrual women was aged above 35 years (N=35) and another small group were aged below 35 years (N=16).

Results: The highest iliac vessel wall thickness was found in the menopausal group of women possessing high risk factors for atherosclerosis (4.3±0.09mm). Following this group were the untreated menopausal group of women with a mean iliac vessel wall thickness of 3.9±0.08mm. Significantly lower thickness were obtained in the other three groups (Mann Whitney U test). The thickness of the hormonally treated menopausal group was 2.93±0.09mm, the older menstrual group 2.61±0.07mm, and 2.0±0.06mm in the young menstrual group.

Conclusion: These results confirm the significant impact high risk factors such as smoking, hyperlipidaemia and diabetes have on the vessel wall thickness due to accelerated atherosclerosis. This study also suggests that the oestrogenaemic state of a woman may effect the health of the vessel wall. In fact, the ageing process and the oestrogen deficiency state of the menopause may act in synergy to exacerbate atheroma formation.

P-069

Lipid profile changes in postmenopausal women taking transdermal hormone replacement therapy

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Objective: to assess the effect of the menopause on metabolic risk factors which may influence atheroma formation.

Methods: A small prospective trial was performed on 29 postmenopausal women who had undergone a hysterectomy and salpingoophorectomy. Baseline metabolic profiles were taken 3 months after the operation and following this washout period, transdermal oestrogen (50um 17-b oestradiol) was administered. After 6 months of treatment, the metabolic profile was repeated.

Results: Although the serum cholesterol did not decline significantly (-4.4%), a significant decrease of 19% was noted in the serum triglycerides. A similar drop was noted in the very low density lipoproteins (VLDL), however the larger molecule low density lipoproteins (LDL) decreased by only 2.7%. Correlating with the decline in the very low density lipoproteins the apolipoprotein B decreased by 12.7%.

A non-significant rise of 4.2% in the high density lipoproteins was obtained after six months of transdermal therapy. However the cardio-protective HDL2 subfraction rose significantly by 27% Congruent with HDL non-significant change, the apolipoprotein A1 remained unchanged.

Conclusion: The above results indicate the favourable changes are obtained in the lipoprotein profile with the administration of transdermal oestrogen to postmenopausal women. Triglycerides and very low density lipoproteins which are relevant to cardiovascular disease in postmenopausal women decreased significantly. Moreover, the HDL2 subfraction which is cardio-protective in this group of women increased. The fibrinolytic system as represented by the anti-thrombin III and the renin activity remained

constant. These findings confirm the beneficial effect of transdermal oestrogen on the metabolic profile of postmenopausal women.

P-070

The epidemiology of polycystic ovarian syndrome

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Polycystic Ovaries (PCO) incorporating Polycystic Ovarian Syndrome (PCOS) is a heterogenous condition that still defies absolute rigid definition but is certainly recognisable. Polycystic ovaries can be detected in all with PCOS, in many normal women, in many children and in a proportion of patients with hypogonadotrophic hypogonadism. Several studies have estimated the prevalence to be approximately 20% in normal adult women, but can be as high as 50% in women undergoing IVF treatment.

Polycystic ovaries are related to metabolic sequelae. Amongst the late ones are obesity, diabetes mellitus that is associated with hyperinsulinaemia cardiovascular disease, high LDL and hypertension. These conditions represent a significant health problem in Western societies and increasingly in emerging economies. Familiar aggregates of PCOS is well recognised. There is evidence of the involvement of at least two genes in the aetiology of PCOS, the steroid synthesis gene CYP 11a and the insulin gene VNTR regulatory polymorphism. Apart from the association with infertility and endometrial cancer, the epidemiology of the cluster of metabolic sequelae of PCO could suggest that such sequelae are the result of PCO being present at a younger pre-menopausal age. Intriguingly, it has been suggested that PCO and PCOS can also be inherited from the father's side. It would follow that there is a male PCO like syndrome and logically the incidence in males ought to be as high as that in women and is manifested, in so far as late metabolic sequelae go, in exactly the same way. The implications are therefore that we are dealing with a condition that has serious Public Health consequences and has a wide range of medical implications.

P-071

SANDS (MALTA), stillbirth and neonatal death society

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SANDS (Malta) was first established in 1994 when a group of health professionals and bereaved parents felt that a vacuum existed where support of the bereaved parents of stillbirths and neonatal deaths was concerned. It appeared convenient to organise the group's activities according to the status of its members. Support from SANDS developed into an initial hospital and later a community based service.

The primary aim in the initial stages is to provide comfort for the mother and partner. Respecting the parents' wishes and providing an understanding and supportive environment are the key issues of support. Practical support is also offered so as to diminish the burden on both mother and her partner.

A questionnaire distributed at the end of each SANDS session indicated that the majority (69%) felt "much better" while the rest indicated that they felt "better" than before they attended SANDS. Following their attendance at SANDS the large majority (94%) were considering another pregnancy. In fact some 21 % of mothers did have a pregnancy within the first two years of attending SANDS.

SANDS has undoubtedly helped several parents to deal with the traumatic experience however difficult the circumstances. The effective support offered by SANDS very much depends on the efficient co-ordination of both the Hospital and Community components.

P-072

Carotid artery wall thickness in hormone treated and untreated postmenopausal women

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The high resolution 22.5 MHz Osteoson DIII was employed to accurately measure the individual layers of the carotid artery. One hundred and twenty-nine postmenopausal women were recruited sequentially and categorised into three groups. Forty-six postmenopausal women were on oral hormone replacement therapy (0.625mg conjugated equine oestrogen and 0.15mg Norgestrel) taken for an average duration of 3±1.5 years, 32 women had been on oestradiol (100mg) implants for 3±1.5 years and 51 postmenopausal women acting as controls were also recruited in this study. The implant group had the thickest carotid artery wall (0.84±0.26) when compared to the other two groups. There was also a significant difference in the media layer when comparing the control group (0.265±0.092mm) to both the oral (0.289±0.087mm) and implant groups. The externa and media layers have a high connective tissue content mainly collagen type I , collagen type III and elastin. The intima layer was significantly thinner in the orally treated group (0.0.249±0.88mm) when compared to the controls (0.287±0.095mm). No significant difference in the intima layer was noted between the control and the implant group (0.279±0.1mm). These findings suggest that hormone replacement therapy given to postmenopausal women influence in a differential manner the various layers of the carotid artery. Hormone replacement therapy appears to encourage thickening of the arterial layers with the highest connective tissue content and in turn it appears to delay thickening of the intima. These effects on the arterial connective tissue may be partly responsible for the cardio-protection attributed to hormone replacement therapy.

P-073

Bone density and skin thickness changes in postmenopausal women on long-term corticosteroid therapy

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A cross-sectional study was performed on 64 postmenopausal women who had been on long-term corticosteroids. Each woman had the skin thickness measured using high resolution ultrasound (22MHz) and the bone density measured using a DEXA Norland. These measurements were compared to a control group (n=557), a group of women who had sustained osteoporotic fractures (n=180), and a group of women on hormone replacement therapy (n=399). The longitudinal study on 38 postmenopausal women on corticosteroids was also performed over a period of two years. The cross-sectional study showed that the corticosteroid therapy was associated with the thinnest skin thickness measurements mean (0.83mm). Similarly, low bone density measurements lumbar spine mean (0.81g/cm2) and left hip mean (0.71g/cm^2) were obtained for this group. The longitudinal study of women on long-term corticosteroids treated with HRT over two years revealed a constant increase in skin thickness (mean 6% per year) and bone density (left hip mean 5% per year, lumbar spine mean 5% per year). Skin thickness and bone density level in women on long-term corticosteroids were comparable to that of women who had sustained osteoporotic fractures. In postmenopausal women on long-term corticosteroids, skin thickness and bone density were both decreased, but the addition of hormone replacement therapy as add back improved the situation.

P-074

Challenges to obstetric medicine with the recent influx of irregular immigrants to the Maltese islands

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Over the past three years the Maltese Islands have experienced an influx of irregular immigrants, the majority coming from the African continent. A number of these irregular immigrants are pregnant women arriving in Malta at various stages of gestation.

From the outset, the management of these cases is hampered by severe difficulties in communication. Many of these irregular immigrants originate from different countries with diverse languages and cultural backgrounds. Difficulty with accurate dating of the pregnancy and obtaining a reliable past obstetric history are frequently encountered. The problem with communication leads to inaccuracy in history-taking and blunderbuss investigation in an attempt at arriving at a diagnosis.

The pregnancies have been complicated by various pathologies appertaining to pregnancy. Early and mid-trimester miscarriage complicated by severe chorionamnionitis have been encountered. These patients are at greater risk of preterm labour due to both the complications related to pregnancy and medical disorders sustained by these patients.

A variety of infections have been diagnosed in pregnancy. Viral infection such as Human Immunodeficiency Virus, Parvovirus B19 associated with fetal ascites and hepatits b have been detected in these patients. Rickettsial infection and bacterial infection with Neisseria meningiditis have also been diagnosed. These infections threaten both mother and child and also present difficulty with the possible teratogenicity and side-effects of the treatment applied.

This recent phenomenon of irregular immigration including pregnant women presents a significant challenge to the practice of Obstetric Medicine. Besides the increased workload the department of Obstetrics has to deal with, the socio-medical problems are diverse and complicated requiring substantially increased efforts at overcoming them.

P-075

Mirena/dilatation and curretage: a one stop shop at treating menorrhagia and avoiding hysterectomy

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Until recently menorrhagia was the commonest symptom for which hysterectomy was performed. The application of the Levonorgestrel intrauterine implant (Mirena) has been shown to significantly diminish menorrhagia, reducing the hysterectomy rate by at least 35% .

This method of treating menorrhagia is slowly gaining acceptance in the Maltese Islands. A total of 72 cases were recruited over the past five years and the outcome was assessed. The vast majority showed an favourable reaction to the application of the Mirena. Only two women were dissatisfied with persisting menorrhagia which required a hysterectomy. The commonest minor complaint was spotting in the first 3-6 months following the introduction of the Mirena but in the great majority of cases this symptom petered out after six months.

The application of the Mirena has been further facilitated by combining the standard investigative procedure – dilatation and curettage – with the application of the Levonorgestrel implant under the same anaesthesia. The contemporaneous curettage may remove the endometrial lining which may act as a barrier to the permeation of levonorgestrel, thereby augmenting the latter's function.

The above combination of procedures has increased efficiency at both diagnosis and expediting treatment further reducing the possibility at resorting to hysterectomy to treat menorrhagia.

P-076

Characteristics of pregnancies undergoing preterm delivery from 2004 till 2006

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The incidence of preterm delivery occurs at around 5%. Preterm delivery is the most common cause of fetal morbidity and perinatal mortality. Women who have had a spontaneous preterm delivery, will be at an increased risk of having a preterm delivery in subsequent pregnancies and among the complications related to prematurity, there are respiratory distress syndrome, necrotising enterocolitis and intraventricular haemorrhage.

Over the past three years 119 women were noted to have sustained preterm delivery (24 - 34 weeks gestation). A number of clinical features were assessed in an effort to delineate possible causal factors for preterm delivery in this group of women. The most common cause for preterm delivery was premature rupture of membranes. Premature rupture of membranes was the initiating cause in 68 women (55.8%). This was followed by bleeding in both early and late pregnancy – 27 women (23%). Pregnancy induced hypertension and multiple pregnancies accounted for 13.4% and 14% of preterm deliveries respectively. Abnormal glucose metabolism was associated with 8.4% of preterm delivery. A number of pregnancies had two or more of the above complications. Two thirds of these pregnancies (64.7%) were delivered by Caesarean Section. Intrauterine death and early neonatal death soon after delivery occurred in 15.1% of the premature neonates delivered. The majority of the surviving neonates required transfer to the Special Care Baby Unit.

Preterm delivery accounts for substantial fetal mortality and surviving premature neonates require intensive SCBU care. Efforts should be directed at the possible causal factors of preterm delivery so as to diminish the birth of premature neonates.

P-077

Should clomiphene citrate or low-dose gonadotrophin therapy be the first line treatment for anovulatory infertility associated with polycystic ovary syndrome?

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Background: Clomiphene citrate has been the first-line treatment for anovulatory infertility associated with polycystic ovary syndrome for 40 years. Ovulation is induced in 75% of patients but only 33% conceive, with the singleton live-birth being 22%. Low-dose FSH therapy has a pregnancy rate of 45%, and a singleton live-birth rate of 34%. However, FSH has only been given to clomiphene failure! From these figures it can predicted, that if FSH is given as first-line treatment, the singleton live-birth rate will be 57%.

Aim: To compare results of first line treatment with clomiphene to those with low-dose FSH in women with anovulatory PCOS wishing to conceive. The results plus a cost-effecvtive analysis will determine if the administration of FSH rather than clomiphene citrate as first-line treatment for anovulatory women with PCOS is a feasible option.

Study Design: A multicentre, randomized, prospective trial and cost effective analysis. Infertile women with established PCOS and who have had no infertility treatment in the preceeding 12 months, will be randomized to receive either Clomiphene citrate or FSH for a maximum of 3 cycles. Primary endpoints include pregnancy, miscarriage, multiple births and singleton live birth rates.

Results: So far 8 patients have been recruited to the study. Six patients were randomly assigned to the FSH group. Of these one had a singleton live birth and one had a miscarriage at 8 weeks. Two patients were randomly assigned to the clomiphene citrate group and none of them conceived.

P-078

Temporal trends in multiple pregnancy rates in the Maltese Islands

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Multiple pregnancy rates in the Maltese Islands have increased significantly in the last forty years from 1.04% during the period 1960-1969 to 1.30% during 1990-99. This increase has in part been influenced by changes which have occurred in maternal age distribution which alone would have increased the twin pregnancy rate to only 1.07%. The difference must be attributable to other factors, the most likely being the increasing use of pharmacological and technological reproductive aids. The occurrence of a multiple pregnancy remains fraught with adverse outcomes and in spite of the advances in obstetric antenatal surveillance and easier recourse to early delivery, the stillbirth rates in multiple maternities has remained markedly elevated contrasting with the fall in the singleton stillbirth rate. The early neonatal mortality also remains markedly greater than that registered for singleton births, but has shown a proportional decrease.

P-079

Short-term obstetric outcomes in obese Maltese women

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Obesity has been associated with specific increased perinatal risks to mother and child. The obstetric outcomes of 1691 of women with a body weight >=85 kg and a pre-pregnancy BMI >30 and their 1721 infants were statistically compared to similar parameters in the background population of 18717 maternities and 18974 births. Obese mothers were more likely to be older than 30 years [p<0.0001], multiparous [p<0.0001] with a history of previous miscarriages [p=0.003]. The antenatal period was more likely to be complicated by hypertensive disease [p<0.0001], and gestational diabetes [p<0.0001]. They were less likely to suffer from accidental haemorrhage [p=0.0074]. These antenatal problems were not simply a determinant of maternal age. They did not appear to have a significantly higher risk of pre-existing diabetes [p=0.3267]. Obese women were also more likely to require obstetric interventions with induction of labour [p<0.0001] and Caesarean section [p<0.0001]. There was a statistically lower rate of operative deliveries [p=0.0007]. The preterm delivery rates were not different [p=0.947] between the two groups of women. The infants born to obese women were at a statistically higher risk for macrosomia [more than 4.0 kg; p<0.0001] and lower risk for low birth weight [under 2.5 kg; p=0.0248]. They also apparently had a statistically higher risk for congenital malformations. There appeared to be a slightly higher risk for respiratory distress though the differences did not reach statistical significance [p=0.0596]. There did not appear to be any significantly increased risk for perinatal loss [p=0.8212], shoulder dystocia [p=0.5059], and low APGAR scores at five minutes [p=0.9989]. It would appear that the obese pregnant woman and her infant are predisposed to adverse short-term obstetric outcomes similar to those found in gestational diabetics. This apparent relationship may reflect determinants of the "Metabolic Syndrome".

P-080

Multiple pregnancy outcomes in the Maltese Islands: 2000-2004

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Multiple births have increased significantly in the last decades. This study attempts to audit the characteristics and outcomes of these maternities. The National maternity data for 2000-04 was analysed [19935 maternities; 20215 births]. The twin maternity rate stood at 1.26%; triplet maternities 0.06%; quardruplet maternities 0.01%. Artificial reproductive technology was used in 9.1% [twins], 27.8% [triplets]; 50.0% [quardruplets], in contrast to 0.7% in singleton maternities. Multiple maternities apparently had increased risks over singleton maternities of hypertensive disease and antepartum haemorrhage. Pregnancies were more likely to be terminated by Caesarean section. Infant outcome was more likely to be complicated by prematurity and dysmaturity and the associated complications of respiratory distress, low Apgar score, and perinatal deaths.

P-081

Pregnancy outcome in diabetic mothers: 1999-2004

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In spite of several advances made in the last two decades in obstetric management, diabetes complicating pregnancy remains a high risk obstetric situation irrespective of whether the medical condition is pre-existing [pre-DM] or develops during pregnancy [GDM]. The study reviews the outcome parameters of pre-DM [maternities = 98; infants born = 106] and GDM [mat. = 480; infants = 498] and compares these to those presumed to have normal metabolic profiles [mat. = 23668; infants = 23993] who delivered in the Maltese Islands during the six-year period 1999-2004. The study confirms that pre-DM carries definate obstetric morbidity risks for the mother and child - the mother showing significantly higher incidences of hypertensive disease and need for Caesarean delivery; while the infant shows a significantly higher morbidity arising from prematurity and attendant complications of low Apgar scores and respiratory distress. There was also a significant risk of macrosomia in these infants, congenital malformations were only slightly increased though the difference did not show statistical significance. GDM similarly showed significant obstetric maternal morbidity risks with a significantly higher incidence of hypertensive disease, induction of labour and Caesarean deliveries. The infant similarly had significantly higher risks from prematurity, respiratory distress and macrosomia. The study confirms that in spite of the increased obstetric and metabolic intervention, the diabetic mother and her child remain at significant obstetric morbidity risks. St Vincent's Declaration goal for diabetic pregnancies has yet to be achieved and may have been overambitious.

P-082

Starvation and the development of the Metabolic Syndrome

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Studies have shown that low birth weight infants have a significant risk of eventually developing the Metabolic Syndrome including maturity-onset diabetes. A severely restricted diet has similarly been associated with poor fetal development leading to low birth weight; while several animal studies have confirmed the link between a restricted diet and the subsequent development of maturity-onset diabetes. The present study sets out to test the hypothesis that the food-restricted situation during the Second World War in Malta led to a population at higher risk of developing the Metabolic Syndrome in adulthood. These war-born women would in turn develop carbohydrate metabolism disorders during their pregnancy predisposing them to deliver infants with a higher birth rate. The study will thus analyse and compare the birth weights of infants born at St Luke's Hospital during 1967-1968 of mothers born during the War period and those born before and after the siege.

P-083

The prevalence of methylenetetrahydrofolate reductase (MTHFR) mutations in patients attending a recurrent miscarriage clinic

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Aim: The aim was to investigate the prevalence of MTHFR mutations in a cohort of 56 patients.

Method: This retrospective observation study includes couples with 2

or more recurrent miscarriages who attended the recurrent miscarriage clinic over the past 2 years. A standard investigation protocol was applied to all patients. The protocol included blood tests for serum folate, fasting homocysteine levels and MTHFR mutations. Both the patients and their partners were investigated. Every patient with MTHFR homozygote mutation was advised to take double dose folic acid daily, stop smoking and avoid other contributing factors to thrombosis.

Results: The results concerning MTHFR mutations were as follows:

- Patients with homozygous MTHFR mutation - 5 (9%)
- Patients with heterozygous MTHFR mutation - 23 (41%)
- Patients' partners with homozygous MTHFR mutation - 3 (5.3 %)
- Patients' partners with heterozygous MTHFR mutation - 11 (20.7%)

3 patients (5.3%) were found to have high homocysteine levels. 1 patient's partner was found to have high homocysteine levels. Serum folate levels were found to be normal in every case.

Conclusion: From these results it can be seen that MTHFR mutations have a high prevalence in our population of patients with a history of recurrent miscarriages and that therefore its inclusion in the investigation protocol of recurrent miscarriage is both justified and indicated. The role of heterozygote states of the MTHFR mutation (41% of female partners) in the aetiology of recurrent miscarriage is yet to be defined.

P-084

An analysis of the investigations of patients attending a recurrent miscarriage clinic

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Aim: This is a retrospective observation analysis of the investigations of the patients who attended the clinic over the past 2 years. 56 patients were seen during this period of time.

Methods: A standard detailed obstetric, gynaecological and medical history was taken in every case. A standard investigation protocol was then applied to all patients. Following the investigations each couple was advised a treatment protocol. These protocols were strictly adhered to as far as possible in order to enable comparisons

Results: The largest group of patients was the idiopathic group with 20 couples representing 35% of the total. The second largest group was the PCOS with 11 patients (20%) and congenital thrombophilia with 8 cases (14.2%). Luteal phase defects (12.5%), congenital anatomical abnormalities (10%) and acquired thrombophilia (7%) followed. There were no cases of genetic defects in this group. . The outcome of the group is still incomplete as a significant number (28 patients) are still trying to conceive following investigation.

Conclusion: The group with ovulatory dysfunction (32%), which comprises the group with Polycystic Ovary Syndrome (20%) and Luteal Phase Defects (12.5%), was nearly as common as the idiopathic group. The PCOS group was, as in previous audits of this clinic, the most important pathological group. This fact sustains the notion that PCOS is in high prevalence in Malta and is probably related to the documented high incidence of diabetes mellitus in our island.

P-085

Detection of *Chlamydia trachomatis* and *Neisseria gonorrhea* in urine by real time PCR

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Aim: Chlamydia and gonorrhea infections are two common sexually transmitted diseases that can be asymptomatic and difficult to diagnose especially in women but can eventually lead to serious problems if left untreated. Current testing for these diseases is not so efficient and can often result in false negative results. In this study, a molecular test was developed for detection of *Chlamydia trachomatis* and *Neisseria gonorrhea* in urine.

Method: Positive controls as well as urine samples spiked with the organisms were used in the analysis. DNA was extracted from 50mls of urine after concentrating the sample. PCR was performed using two sets of specific primers and fluorescently labeled probes using an ABI7300 real time PCR cycler.

Results: PCR amplification was detected for all positive controls as well as from urine samples spiked with the corresponding organism. No amplification was observed in non template controls.

Conclusion: In this study a very sensitive method for the detection of Chlamydia and gonorrhea in urine samples was developed. This method is useful for early detection of these two common sexually transmitted diseases.

P-086

Detection of human papilloma virus in clinical samples by polymerase chain reaction (PCR)

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Aim: The Human Papilloma viruses (HPV) are a group of viruses that includes more than a hundred types, thirty of whom were reported to be transmitted sexually and infect the genital area in both males and females. Detection of HPV is very difficult since it might be present very high up in the vagina, cervix or anus. Until now observation of koilocytosis in routing Pap smear is indicative of HPV infection although this is not always the case. In this study a molecular test for the detection of HPV infection was developed.

Method: DNA was extracted from cervical brushings or biopsies by conventional methods. HPV DNA controls of different types including 16, 18 and non-oncogenic types were also used in the study. A set of primers consisting of nine pairs was used for PCR amplification. In parallel, another PCR was performed as a control to test for the efficiency of the extraction method. Following PCR, the expected fragment of approximately 400bp was detected by agarose gel electrophoresis.

Results: Positive amplification was observed for all HPV controls and known positive samples. DNA sequencing was then performed using BigDye® terminator technique and results compared to public databases to identify the type. There was 100% concordance with the expected types of HPV controls.

Conclusions: In this study a novel method for detection and typing of HPV in clinical samples was developed. This method is very sensitive and specific and can detect early infection with this virus and so help in better treatment management.

P-087

Infertility in science fiction

V Grech
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Medicine and its practitioners are frequently used in mainstream literature and in subgenres of literature, either as protagonists or as useful backdrop. Infertility is often employed in science fiction (SF) and is applied not only to humanity, but also to animals and to aliens. This talk will briefly depict some of these representations of infertility in SF.

P-088

The eyes and vision in science fiction

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Medicine and its practitioners are frequently used in mainstream literature and in subgenres of literature, either as protagonists or as useful backdrop. Eyesight and the eyes themselves are regularly employed in science fiction (SF), not only as important motifs enjoying central roles in the plot, but also in other aspects of the story, such as in characterization. In this article, I will therefore review some interesting aspects of eyesight and of the visual

organs as exploited by SF authors, with particular reference to Ridley Scott's 1982 cult movie 'Blade Runner'.

P-089

Stenosis of the upper body arteries in association with coarctation and interrupted aortic arch

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Coarctation of the aorta and interrupted aortic arch are not usually associated with stenosis of innominate, common carotid or subclavian arteries. We report two patients with stenoses of combinations of these arteries, one in association with coarctation (stented later in life) and the other in association with interrupted arch (arterial stenoses surgically repaired at the time of surgery for the arch proper). Both have done well.

P-090

Mycoplasma pneumonia – an unusual cause of acute myocarditis in childhood

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Mycoplasma pneumoniae is primarily a respiratory pathogen but may affect exhibit a diverse range of presentations from asymptomatic infection to life threatening conditions. Myocarditis of varying severity is an unusual complication. We report a 6 year old with mycoplasma myocarditis, a rare age for such a presentation, and who responded well to treatment with no sequelae. Serological testing for *Mycoplasma pneumoniae* should be part of the routine work-up for myocarditis.

P-091

A case of congenital cytomegalovirus infection

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Aims: To highlight (1) the incidence and clinical features of congenital CMV infection; (2) the diagnostic features and imaging; (3) the controversial issue regarding treatment; (4) outcome.

Methods: Case report of a newborn infant presenting at birth with petechial rash, hepato-splenomegaly, hyperbilirubinaemia and pneumonitis.

Conclusions: Congenital CMV infection remains an important of intra-uterine infection with potential devastating complications for the infant. The difficulties of treatment and outcome are discussed.

P-092

Protocol for administering medicines in mainstream schools

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Background: The requirement for regular medication and, sometimes, medical procedures, during school hours may hinder regular attendance. Similarly, unsupervised administration by pupil or teachers is potentially dangerous to the pupil, his peers and may result in litigation against teachers and education authorities.

Aim: A national protocol with clear guidelines for pupils, parents, attending doctors and all relevant personnel from the Division of Education was designed for the safe administration of medicines to children in mainstream schools.

Methods: The protocol differentiated between 'ORDINARY' and 'EXTRAORDINARY' guidelines to cater for the majority on regular medication who require the ingestion of tablets, syrup, inhalers or drops generally once during school hours, and the remaining 5% who require special medication (e.g. dangerous or controlled drugs), invasive medication (e.g. per rectum, injections, via enteral tube), or special procedures (e.g. urinary catheterization, injection through indwelling central ports, etc). A standing committee was proposed to assess the application of parents for extraordinary procedures on an 'ad hoc' basis, with an emphasis on the feasibility of introducing such procedures in school. For the remaining majority, a clear protocol standardized the following: i. 'Request Form' (with medical section outlining details of prescription including name, dosage, method of administration, time, method of storage, etc); ii. 'Consent Form' for parents/guardians; iii. Designation and training of staff, co-ordinated by head of school; iv. Specific forms for recording daily administration, errors, complications, etc; v. Practice for disposal of medicines; vi. Request for review/renewal/cancellation of established approval.

Conclusion: Pending clarification on indemnity, legal issues and official approval, the protocol should significantly facilitate school attendance in children requiring regular medication.

P-093

Brain and myocardial infarction in a patient with complex transposition of the great arteries

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In transposition of the great arteries, systemic venous return is preferentially routed to the aorta, and any spontaneous or iatrogenic emboli may therefore cause organ infarction. We present a patient with transposition of the great arteries who developed myocardial and brain infarction despite adequate precautionary measures.

P-094

Myocardial injury following perinatal asphyxia

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Aims: To highlight the following:

1. Birth asphyxia remains a common problem
2. Commonest complication is neurological
3. Less commonly, other organ systems, including the heart, may be involved.

Methods/Results: Case report of a newborn baby with birth asphyxia who sustained documented myocardial injury, including tachyarrhythmia and elevated cardiac enzymes.

Conclusion: Following birth asyphxia a careful diagnositic workup is necessary to determine end-organ damage of the CNS, peripheral nervous system, kidneys and heart.

O-095

Coverage of neonatal cranial ultrasound scanning - current practice in the Special Care Baby Unit and recommendations

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Aims: To review the coverage of cranial ultrasounds in sick neonates admitted between October 1997 and October 1999 comparing this to recommended guidelines.

Methods: A Medline review (1976-2005) was performed to assess the value and timeliness of screening neonatal cranial ultrasounds.

Results: Recommendations are to perform first scan for preterms at high risk of intraventricular haemorrhage in first 72 hours and follow up at 14 days. In those with birth / perinatal asphyxia, first scan should be performed in the first 24 hours and follow up at 6-8 weeks. Early scans within the first 96 hours are important to detect lesions of antenatal origin. In our preterm group 99 (58%) underwent the first ultrasound scan within 72 hours of life. By the end of the first week, 126 (80%) preterm and 94 (84%) term underwent first cranial scan. A second scan was performed in the 2nd week in 40 %(63) of preterms. First timely scans were performed in 64% of term infants with hypoxic ischaemic encephalopathy and 44% had a follow up scan booked on the SCBU at 4-6 weeks.

Conclusion: Adhering to the optimal timing of scanning is difficult. Just over half of preterm infants had early scans which could result in missing transient lesions like flares / early hemorrhages in those unscanned. Most preterms had a scan by the first week, the time when virtually all haemorrhages will be detected. Coverage of term infants with second ultrasound is low as most would have been discharged before 4-6 weeks. The latter require improved 6-8 week ultrasound coverage.

P-096
Autoantibodies in visceral leishmaniasis

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Visceral leishmaniasis is endemic in the Mediterranean region and is caused by Leishmania infantum. Disease burden is highest in children below the age of 3 years. Autoantibodies might be produced in association with Leishmania infection. Discriminating between infection and autoimmune disease might then be challenging.

This is a case report of a 2 year old boy of Afro-Caribbean origin who presented with a four week history of occasional fever and left knee pain. On physical examination he was noted to be pale, had hepatosplenomegaly and a normal left knee. Laboratory investigations showed a hypochromic microcytic anaemia, a raised ESR, a high CRP, and a markedly elevated serum IgG. Cultures of the blood and urine were negative. Serological tests for hepatotropic viruses and HIV were also negative. Rheumatoid factor IgM, anti-dsDNA antibodies and antinuclear antibodies, with a nucleolar pattern, were measured in high titres. Leishmania antibodies were detected by immunofluorescence and intracellular Leishmania amastigotes were identified on examination of a bone marrow aspirate. He was successfully treated with sodium stibogluconate for 3 weeks; however the autoantibodies persisted for up to 4 months later.

The production of autoantibodies in visceral leishmaniasis might be secondary to polyclonal B cell activation and molecular mimicry between leishmanial antigens and human proteins. A high index of suspicion is necessary to diagnose this potentially fatal disease.

P-097
Neonatal zoonosis

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Pasteurella multocida is a Gram negative coccobacillus which is a common commensal in the upper respiratory tract of cats and dogs. Infections by Pasteurella multocida are still not notifiable so incidence and prevalence data are not available. Human infection usually follows animal contact; however rare cases of infections without dog or cat exposure have been reported. This is a case report of a neonate born with congenital Pasteurella multocida infection.

A term female infant was delivered by emergency Caesarean section because of a prolonged first stage of labour. Her mother was febrile during labour, her membranes had ruptured 15 hours before delivery and she had foul smelling liquor. At birth the neonate needed to be resuscitated due to an absent respiratory effort. Subsequently she was noted to be tachypnoeic and hypotonic.

Culture of the neonate's cerebrospinal fluid was negative; however Pasteurella multocida was isolated from the blood. She was treated with a 10 day course of co-amoxiclav and cefotaxime, and did not suffer any sequelae. Her mother denied any contact with cats or dogs.

This neonate was born with Pasteurella multocida septicaemia associated with chorioamnionitis, most probably acquired vertically from asymptomatic maternal vaginal colonisation. A negative maternal history of contact with cats or dogs does not exclude the possibility of this zoonotic infection.

P-098
Autoimmune neutropenia of infancy

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Destruction of neutrophils by granulocyte specific autoantibodies characteristically occurs in primary autoimmune neutropenia (AIN). AIN is often observed in infants and has an incidence rate of 1:100,000. Despite severe neutropenia, AIN usually follows a benign course. This is a case report of AIN of infancy presenting, quite unusually, at 26 months.

A 26 month old girl was found to have isolated neutropenia after she was investigated for a Pseudomonas aeruginosa wound infection complicating a herniotomy. Following resolution of the infection she was noted to remain persistently neutropenic, with absolute neutrophil counts <1.0x109/l. On repeated physical examination she was always well, was growing normally and did not develop any fever, enlargement of the liver or spleen, lymphadenopathy or rashes. Her blood picture was normal. Immunoglobulin levels were normal for her age and she did not have any serological evidence of a connective tissue disorder. Examination of the bone marrow revealed hypercellularity with no signs of malignancy. Granulocyte-specific human neutrophil antigen-1 (HNA-1a) antibodies were detected in her serum. Furthermore she was genotyped as HNA-1a(+) suggesting that the antibodies were autoimmune in nature. She has remained well except for the occasional upper respiratory tract and superficial skin infections.

In the majority of cases AIN resolves spontaneously over 7 to 24 months. Most children do not require any treatment except for antibiotics to treat infections; however prophylactic antibiotics may be considered in those with frequent infections. Remission of neutropenia, in children with severe infections or in those scheduled for surgery, can be achieved with granulocyte colony stimulating factor (G-CSF).

P-099
Gram-negative septicaemia and peritonitis – an unusual neonatal presentation of cystic fibrosis

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Cystic fibrosis is a common caucasian autosomal recessive disorder with variable presentation. Most children are diagnosed prior to school age and the disease may also manifest in the neonatal period. Our patient, a two week old baby boy, presented with gram-negative septicaemia and peritonitis - a presentation that has not been previously reported, to our knowledge.

P-100
Transient shoulder paralysis after vaccination in childhood - two cases with different vaccines

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Limb paralysis is a highly unusual complication of various types of vaccination. We report a case of arm paralysis after the first dose of DTP polio vaccine at 2 months of age and another case of arm paralysis after a first dose of influenza vaccine. MRI on both cases showed diffuse muscular oedema inflammation in the former and synovitis in the latter. Both resolved with conservative treatment within 48-72 hours.

P-101

Aicardi-Goutières syndrome: a genetic syndrome mimicking congenital infection – a description of two new cases

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Aicardi-Goutières syndrome (AGS) is a progressive encephalopathy, with a recessive autosomal pattern of inheritance that has its onset in the first year of life and is characterized by acquired microcephaly, basal ganglia calcifications, white matter abnormalities, chronic lymphocytosis and raised interferon-alpha in cerebrospinal fluid. Many of these features overlap with those of an intrauterine infection and can therefore lead to the wrong diagnosis.

Here we describe two siblings, a brother and a sister, with clinical features initially suggestive of a congenital infection but with negative serological TORCH analysis. Further testing confirmed AGS.

AGS is an autosomal recessive syndrome that can mimic congenital infection. It is important to recognize because of the progressive nature of the syndrome and the risk of recurrence in families with affected children.

P-102

Special educational needs teams (SENT) project in schools – a model of service delivery

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Aims: Special Educational Needs Teams (SENT) project was initiated in October 1998 through joint collaboration of child support services within the Education and the Health Divisions. The aim was to implement the project as a pragmatic response to the need for a co-ordinated approach in the support of children in schools in order to overcome some of the problems of poor interagency liaison and lack of community resources.

Methods: Work was initially piloted in two State primary schools and in subsequent years, the number of participating schools varied from 4-10 schools/year. Team structure, method of work and evaluation procedures were developed in order to provide a basis for individual case studies, assessing whole school-needs and developing a plan

Results: Over the past 6 years, SENT provided support to 38 Mainstream schools. An average of 7 meetings /school / year was held and an average of 14 cases was reviewed / team. The team liaised with a total of 11 different agencies. Predominant reasons for referral included emotional / behavioural difficulties, speech and language problems, learning difficulties and psychosocial problems. Whole-school needs evaluation varied but a recurring theme included the need for a resource room, social support and parental and teacher information.

Conclusion: Feedback received from schools regarding the project has been generally positive. There was a consensus feeling that SENT has enhanced inter-agency collaboration and offered support not only to children and their parents but also to the whole school environment.

P-103

Griscelli syndrome - the commonest cause of Haemophagocytic Lymphohistiocytosis in Maltese children

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Aims: The presentation will describe the clinical features, laboratory findings, diagnostic criteria and treatment modalities of children with the Griscelli syndrome and Haemophagocytic Lymphohistiocytosis who presented to the Department of Paediatrics in Malta from 2005 to 2006.

Methods: Three short case presentations will be followed by a description of the Griscelli syndrome and Haemophagocytic Lymphohistiocytosis.

P-104

DC cardioversion in a case neonatal atrial flutter

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Flutter is very rare in the paediatric age group, particularly in the neonatal period. We present a newborn with atrial flutter in the absence of structural heart disease. Tachycardiomyopathy was already present i.e. cardiac dilatation and failure due to excessive heart rate - 400/min atrial rate with 2:1 block producing a ventricular rate of 230/min. Medical treatment failed and DC shock reverted the rhythm to sinus with rapid normalisation of cardiac function.

P-105

Transmission of ring chromosome 21 from a phenotypically normal mother to her trisomic daughter

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Introduction: Ring chromosome 21 is a rare abnormality giving rise to a wide variety of phenotypes. The origin of ring 21 chromosome also varies and may include deleted or duplicated material.. Most cases arise de novo, but some are transmitted through generations. We analysed the mechanism of origin of mosaic trisomy 21 that included an additional ring 21 chromosome of maternal origin.

Methods: G-banded Karyotype and Telomeric FISH analysis.

Results: The baby showed some phenotypic features of Down syndrome. Her karyotype showed a mosaic 46,XX / 47,XX+r21 The ring chromosome was present in the trisomic cell line only, while the 46 XX cell lines all contained a pair of normal chromosome 21. Her mother, a 35 year old lady with a normal phenotype and a record of consistently poor school performance had a non-mosaic karyotype 46,XX -21, + r21. FISH analysis showed the presence of a single centromere, and loss of 21q telomeres in the maternal ring chromosome 21 and in all trisomic cells of the child.

Conclusions: The conceptus originated as a maternal non-disjunction giving rise to a trisomy 21 zygote. Mosaicism arose post-zgyotically by trisomic rescue in some blastomeres. Ring chromosome formation involved fusion of the distal ends of the long and short arms of chromosome 21 with consequent loss of 21q telomeres. The telomeric loss apparently had very small effects on the phenotype resulting only in intellectual impairment in the mother. Evidence indicates that ring chromosome 21 also predisposes to non-disjunction.

P-106

Therapeutic drug monitoring of lamotrigine in a paediatric population

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Aims: Therapeutic drug monitoring is important for drugs that exhibit inter-individual variability in pharmacokinetics, and where drug-drug interactions, concurrent disease or age alters the kinetics of that drug. This is of particular importance in a chronic neurological condition such as epilepsy. In this study, the value of therapeutic drug monitoring for lamotrigine, a novel antiepileptic drug, was investigated in a group of paediatric patients.

Methods: Plasma lamotrigine levels at steady state (mean ± S.D.) in epileptic patients were thus measured using this novel analysis.

Results: A statistically significant difference ($P < 0.05$) was obtained between valproate co-medication group and carbamazepine co-medication group, between valproate co-medication group and clonazepam co-medication group, and between valproate co-medication group and valproate, clonazepam co-medication group.

Conclusion: Overall, the results thus obtained from the studies in this research, indicate the important need to streamline pharmacokinetic data for the use of antiepileptic drugs in children. Most physicians use ad hoc reasoning in the design of therapeutics and dosage regimens for these drugs in children. Our studies have shown that there are too many variables that could influence the plasma drug concentrations obtained. There is still a lack of satisfactory models and software packages that will allow accurate predictions of drug levels with these drugs in these populations.

P-107

Age-related effects on *in vivo* tau protein processing in different regions of the rat brain following chronic nicotine administration: relevance in Alzheimer's disease pathology

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Abundant senile plaques and neurofibrillary lesions are the major neuropathological lesions present in Alzheimer's disease (AD). The principal structural components of neurofibrillary tangles are paired helical filaments (PHFs), which are composed of microtubule-associated protein tau in hyperphosphorylated state. Hyperphosphorylation of tau has been shown to dissociate tau from microtubules, leading to the disruption of the neuronal cytoskeleton and interference with cellular transport mechanisms. The loss of cholinergic neurons is also a critical event in the pathogenesis of AD. Acetylcholine is a key neuromodulator in the synaptic mechanisms involved in learning and memory and acts through two major receptor subtypes: nicotinic and muscarinic acetylcholine receptors (nAChRs, mAChRs). Several studies have shown that nAChRs are selectively reduced in AD brains suggesting a potential relationship between nicotinic receptors and AD pathology. Notably, chronic nicotine treatment has also shown to reduce the plaque burden suggesting that nicotine-based therapies could have therapeutic benefits in AD. To understand the possible mechanisms regulating tau levels in vivo by nAChR activation, nicotine was infused chronically in both young and old rats and the levels of the protein analysed in various regions of the brain. Chronic administration of nicotine was found to significantly increase the expression levels of total and dephosphorylated form of tau in the hippocampus of young rats while reducing the phosphorylated form of the protein in older rats. This data suggests that nicotine, by reducing tau phosphorylation, may be considered as a potential therapeutic agent in AD.

P-108

Point-of-care glycosylated haemoglobin testing

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Introduction: The advent of glycosylated haemoglobin testing (HbA1c) as a point-of-care procedure provides an opportunity for practitioners to monitor the management of diabetes by the patient over a period of time rather than the instantaneous indication given by the blood glucose levels. Aim: To evaluate the impact of using HbA1c testing in a community pharmacy and the provision of individualised patient counseling.

Method: A prospective study where patients visited a community pharmacy three times was carried out. During the first (baseline) and third visit (held three months after the first visit), questionnaires addressed to the patients and the HbA1c test were performed to assess patient knowledge. During the second session information was presented to the patients by the pharmaciSt Patients paid 33 Euro for the service.

Results: Thirty-four patients participated in the study: average age- 49 years, age range- 28-78 years, 18 females, 16 males, 33 were type 2 diabetics. There was a significant improvement in knowledge and lifestyle, self-care activities and in understanding of HbA1c testing during the third interview compared to baseline (first interview) ($p<0.05$). The difference in HbA1c test results at 3 months from baseline however was not significant ($p=0.79$).

Conclusion: An improvement in patients' knowledge was obtained. The study should be extended to cover a longer time-span to assess the impact of the pharmacist intervention on blood glucose levels through the use of the HbA1c point-of-care test.

O-109

Interpretation of glycosylated haemoglobin testing

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Aims: To determine the significance of HbA1c testing in the diagnosis of diabetes and to assess correlation between HbA1c results and concomitant conditions.

Method: A prospective study was carried out with 272 patients (mean age- 52 years, range 25-83 years) referred for diagnosis of diabetes. Patient medical history and laboratory results were compiled. A comparison of diagnostic capabilities of HbA1c with FPG and OGTT was studied and the influence of occurrence of hyperlipidaemia, hypertension, obesity and family history of diabetes on HbA1c results were analysed. Statistical analysis was carried out using the Biomedical Data Package.

Results: Diagnosis according to FPG and OGTT was: 68 (25%) normoglycaemic, 49 (18%) borderline and 155 (57%) diabetic. The Pearson chi-square test indicated correlation between results obtained with FPG and HbA1c, and results obtained with OGTT and HbA1c ($p<0.05$ for both). The area under the receiver operating characteristic curves comparing HbA1c and FPG, and HbA1c and OGTT was 0.77 and 0.78 respectively. HbA1c values were unaffected by the occurrence of concomitant factors (p values of Mann Whitney test >0.05).

Conclusion: HbA1c testing cannot be used as a single diagnostic test since 22% of the abnormal glucose tolerant population is missed. Considering the fact that HbA1c testing kits are now available for use in community pharmacies, the pharmacist may confirm result of FPG test with HbA1c test result for patients who present with an abnormal FPG result. HbA1c values are unaffected by the concomitant conditions studied and therefore any changes in HbA1c levels reflect changes in glycaemic control irrelevant to the status of the other conditions.

P-110

Evaluation of management of pregnancy-induced hypertension

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Aim: To record incidence and to evaluate management of pregnancy-induced hypertension (PIH).

Method: A retrospective study covering a one-year period where patients with PIH attending the Obstetrics Clinic at St Luke's Hospital were identified and the number of cases of PIH, management of PIH, and delivery outcomes for PIH patients were documented. The Pearson Chi-squared test and the paired t-test were undertaken using the BMDP software.

Results: During the period studied, there were 2008 patients presenting at the clinic between 16th and 20th week of gestation. Of these, 83 (4%) were diagnosed with PIH: 50 (60%)- primagravida and 33 (40%)-multigravida. Management: 57 patients (69%) were recommended bed rest and dietary changes and 26 patients (31%) were prescribed drug therapy. The drug therapy recommended was (n=26): labetolol- 22 (85%), aspirin- 2 (7%), methyldopa and hydralazine- 1 (4%). The mean duration of labetolol

therapy was 33.5 days (1-100) and the mean gestational age at start of labetolol treatment- 31 weeks (range: 24weeks-post-partum). Patients receiving labetolol (PIH labetolol) had a significantly higher mean arterial pressure during pregnancy compared to non-drug therapy PIH patients and to normotensive pregnant patients (control patients) ($p<0.05$). PIH patients had a significantly longer hospitalisation period than control patients ($p<0.05$). The PIH labetolol group patients had a lower mean gestational age at delivery (36.8 weeks) when compared to non-drug therapy PIH patients (38.6 weeks) and to control patients (38.9 weeks) ($p<0.05$). Conclusion: The incidence of PIH was 4%. Labetolol was the drug of choice in severe conditions whilst diet and bed rest were recommended in mild hypertension.

P-111

Chronopharmacology of atenolol in controlling hypertension

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Introduction: The extent of lowering of blood pressure with antihypertensive agents may vary depending on the time of administration of antihypertensive drugs.

Method: A total of 29 patients (mean age 52 years, range 36-63 years, 15 males, 14 females) diagnosed with primary hypertension were included in the study. Of these, 25 were receiving atenolol 100mg once daily (treatment group) and 4 patients were not receiving any antihypertensive agents (control group). Treatment patients were first instructed to take atenolol in the morning for five days and then were asked to cross over to evening administration for another five days. Blood pressure was monitored using an ambulatory blood pressure monitor for 24 hours.

Results: The blood pressure circadian pattern was preserved with atenolol when the drug was administered in the morning and even when the drug was administered in the evening. Evening administration of atenolol produced a statistically significant lower diastolic blood pressure ($p<0.05$) when compared to diastolic blood pressure following administration of atenolol in the morning. Comparison of blood pressure of treatment group patients and control group patients showed that blood pressure was relatively lower for treated patients compared to control patients particularly the diastolic blood pressure ($p<0.05$) of both morning and evening administration.

Conclusion: The findings suggest that administration of atenolol at different times of the day may exert a different effect on blood pressure levels and profiles. Administration of atenolol in the evening may result in a better control of hypertension.

P-112

Knowledge of paediatric diabetic patients on their disease state

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Introduction: In insulin-dependent diabetes mellitus paediatric patients, responsibility of care changes from a predominantly parent-managed situation to a child-managed system as the child grows older.

Aim: To assess the knowledge of young patients suffering from diabetes and of their parents on the condition and its management.

Method: A prospective study was carried out where 50 patients attending the Diabetes Clinic were interviewed using a questionnaire based on the Diabetes Knowledge Assessment Scales to evaluate the knowledge of patients and of parents on diabetes (each correct answer was assigned a score of 1, maximum score 18).

Results: Patient characteristics: mean age 12.5 years (range 7-18 years), gender 25 males, 25 females, mean duration of diabetes 3.5 years (range 6 months-10 years). Scored knowledge of patients: < 10 scores- 16 (32%), 10-13 scores- 18 (36%), >13 scores- 16 (32%). Scored knowledge of parents: <10 scores-0, 10-13 scores 10 (20%), >13 scores- 40 (80%).

Conclusion: Disease knowledge of paediatric patients suffering from diabetes needs to be revisited and emphasised as the child grows older. Health professionals should use knowledge assessment scales to assess level of patient's knowledge and provide information according to the patient's needs so as to support the shift towards a child-managed system.

P-113

A comparative cost-effectiveness study in wound management

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Introduction: Cost-effectiveness of methods adopted for treating and preventing the occurrence of pressure sores is considered within institutions. Aim: To determine costs incurred in preventing and treating pressure ulcers at two geriatric institutions namely St Vincent de Paule (SVPR) and Zammit Clapp Hospital (ZCH). Method: Cost-minimisation analysis for 50 sores (25 sores in each setting) over an 8-week period was carried out. A wound dressing chart was developed to evaluate management of pressure sores and to assess wound volume, treatment costs, prevention costs, and pressure sore incidence.

Results: Pressure sore incidence: 6.2% for ZCH and 7.2% for SVPR, prevention costs: 1.8 Euro/patient/day for ZCH and 0.37 Euro/patient/day for SVPR. Treatment costs for fifty sores: 6538 Euro for ZCH and 5695 Euro for SVPR. Of these amounts, 64% at ZCH and 79% at SVPR were due to dressings while the remaining costs were due to nursing time. In both institutions the most common pressure ulcer site was the sacrum. Total pressure sore volume reduction: 69 cc for ZCH and 19 cc for SVPR. Costs of treatment/cc: 1.90 Euro at ZCH and 6 Euro at SVPR.

Conclusion: Dressing costs at SVPR are higher than those at ZCH whereas nursing time is lower at SVPR when compared to ZCH. This results in lower treatment costs at SVPR. et, pressure sore treatment at ZCH was more cost-effective than at SVPR because total pressure sore volume reduction was three times higher at ZCH. The costs of treatment/cc is lower for ZCH.

P-114

Quality of life measurement and use of losartan in patients with ACE inhibitors intolerance

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Aim: to investigate the effect on quality of life of changing from an ACE inhibitor to losartan, an angiotensin II receptor antagonist, in patients suffering from heart failure who are not tolerating ACE inhibitors.

Method: A prospective study was carried out over 20 weeks with 17 patients (mean age- 65 years, range 50-81 years). Two health-related quality of life instruments were used: Short Form-36 (SF-36, a generic instrument) and the Minnesota Living with Heart Failure (LHFQ, a disease specific instrument). A data sheet to assess the occurrence of side effects was developed. The SF-36, LHFQ and the data sheet were addressed to the patients while still on an ACE inhibitor (baseline) and after 12 weeks of starting treatment with losartan.

Results: There was no significant difference between SF-36 scores obtained at baseline and scores obtained during losartan treatment. For the LHFQ scores a statistically significant improvement in quality of life was detected ($p<0.001$) during losartan treatment (angiotensin II receptor antagonist) compared to baseline (treatment with ACE inhibitor). Patients (14, 82%) reported that they noticed an improvement in their well-being with the start of losartan treatment. Occurrence of side effects with losartan: 10 (59%) reported no side effects, 6 (35%) dizziness, and 2 (12%) hypotension on treatment initiation.

Conclusion: Treatment with losartan resulted in an improvement in scores for the LHFQ instrument and a better side effect profile for patients who were intolerant to ACE inhibitors.

P-115

Pharmacoeconomics and quality of life in continuous ambulatory peritoneal dialysis

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Introduction: Continuous ambulatory peritoneal dialysis (CAPD) supports patients with renal disease to keep following their daily activities as much as possible.

Aims: To calculate yearly costs per CAPD patient and per haemodialysis patient, and to identify the impact of treatment on the patients' quality of life.

Method: The yearly hospital costs per CAPD patient and per heamodialysis patient were calculated. The McGill Quality of Life instrument was administered to 50 CAPD patients and to 50 haemodialyis patients (average age 58 years). The total yearly cost per CAPD patient (catheter insertion, teaching sessions, accessories, monitoring costs, antibiotic and epoetin treatment), total yearly cost per haemodialysis patient (fistular insertion, accessories, monitoring costs, equipment, treatment sessions, epoetin treatment), were calculated.

Results: The annual dialysis costs: 16 730 Euro per CAPD patient, 36 761 Euro per haemodialysis patient. From the McGill Quality of Life instrument, the average score obtained out of 190 was: 150 by CAPD patients, 151 by haemodialysis patients. Restlessness was the most common symptom experienced by both CAPD (30%) and haemodialysis (50%) patients followed by pain due to peritonitis for CAPD patients (24%) and insomnia for haemodialysis patients (22%).

Conclusion: The annual expense to maintain a patient on haemodialysis is about two times more than to maintain a patient on CAPD. Although restlessness was more common in haemodialysis patients, there was no significant difference in the quality of life of CAPD and of haemodialysis patients.

P-116

Pharmacist intervention in elderly patient discharge

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Aim: To evaluate long-term effects of pharmacist intervention in counseling elderly patients upon discharge.

Method: A prospective controlled study was undertaken. The pharmacist intervention consisted of the pharmacists preparing a four-day medicines supply, a patient discharge medication leaflet and counseling patients on how to take the medications. At Zammit Clapp Hospital, 53 patients were interviewed on admission (t0), after pharmacist intervention (t1), four days post-discharge (t4) and fifteen days post-discharge (t15) (Group A). At St Vincent de Paule Residence, 28 patients as the control group patients (Group B) did not receive pharmacist intervention and were interviewed at t0. Patient interview was intended to evaluate patient knowledge on medications and patient compliance.

Results: Patient knowledge improved from 26% (t0) to 86% (t1) for Group A patients. Knowledge decreased to 73% at t4 and to 58% at t15. There is a significant decrease ($p=0$) in knowledge when comparing results for all four interviews. The knowledge of Group A patients (26%) was not significantly different to Group B patients (30%) at t0. Compliance reported by patients was with 86% and 76% of the medications at t4 and t15 respectively compared to the 94% intended compliance during discharge ($p<0.05$).

Conclusion: The pharmacist intervention resulted in an improvement in knowledge. There was a significant decrease in knowledge between t1 and t15, suggesting that a pharmacist counseling session held every four weeks, when the patient presents at the pharmacy for a refill, is indicated for older persons.

P-117

Validation of hospital clinical pharmacists' intervention

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Introduction: Validation of standards of practice in patient care should consider the perception held by patients and non-pharmacist health professionals of the pharmacist intervention.

Aim: To develop methods to validate the hospital clinical pharmacists' intervention in patient care as perceived by patients and other health professionals.

Method: Two quantitative measurement instruments directed towards patients and other non-pharmacist health professionals were developed for use within a hospital setting. The tools evaluate the intervention of clinical pharmacists in patient care during admission, ward rounds, and patient discharge on a scale with a maximum of 100. The instruments were psychometrically evaluated and implemented at Zammit Clapp Hospital (ZCH). Face and content validity, reliability, and practicality of the instruments were assessed. Statistical analysis was carried out using SPSS.

Results: Face and content validity: the team of experts agreed upon the structure of the instruments, presentation, layout, and statements included. Reliability testing: the kappa-value was <0.80 indicating reproducibility of data generated.

Implementation: 60 patients (19 males, 41 females) completed the instrument intended for patients while 51 out of 54 health professionals practicing at ZCH returned the instrument intended for health professionals. The average scores achieved were: 94 for the patients (range 44-98) and 88 for the health professionals (range 74-100).

Conclusion: These tools provide a quantitative evaluation of the intervention of hospital clinical pharmacists in patient care as perceived by patients and other health professionals and can be adapted for an external validation exercise of hospital clinical pharmacy services.

P-118

Use of fish enzyme gel for the management of pressure sores

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Aim: To assess the clinical efficacy and cost-effectiveness of Penzim gel, a skin preparation that consists of an enzyme extracted from fish, in the treatment of pressure sores.

Method: A clinical study was carried out over 25 weeks and involved 50 wounds. The wounds were divided into two equal groups, A and B. Group A patients were treated with Penzim gel while conventional treatment was used for Group B patients. The clinical efficacy of the products in the two groups was assessed by measuring pressure sores colour and volume. The total cost of items used for each sore was identified and the average nursing time for dressing change was calculated.

Results: The mean width of the pressure sores in Group A was significantly smaller than that of Group B in the final weeks of the study according to the Mann-Whitney test (p value 0.022-0.045). The mean Departmenth of the pressure sores in group A was found to be significantly higher than that of Group B (p value 0.0013-0.0386). The wound colour appeared to be significantly better for Group A for various weeks (p value 0.019-0.04). The cost of Penzim gel was estimated to be 78 Euro per cc and the cost of conventional treatment was 92 Euro per cc.

Conclusion: The enzyme extracted from fish contained in Penzim gel was found to be significantly more effective and cost-effective than conventional treatment used in the management of pressure sores.

P-119

Management of psoriasis and impact on quality of life

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Introduction: Psoriasis is a condition that impacts negatively on the quality of life of patients.

Aim: To assess the quality of life (QoL) of Maltese psoriatic patients and the relative costs of treatment.

Method: A prospective, cross-sectional study was carried out in psoriatic patients attending the out-patients dermatology clinic at Sir Paul Boffa Hospital. Three measurement instruments were used to generate QoL scores: the Short Form-36 (SF-36) as a general health index, the Dermatology Life Quality Index (DLQI) as a general skin disease index, and the Psoriasis Disability Index (PDI) as a disease specific index. Data on psoriasis treatment costs was compiled.

Results: Out of 188 patients approached, 102 (mean age 49 years, age range 17-82 years, 46 females, 56 males) participated in the study. Patients were taking an average of 3 medications (range 0-7). The DLQI scores showed a significantly better QoL for males compared to females ($p<0.05$). As expected both the DLQI and the PDI scores, showed a significantly better QoL for patients with mild symptoms compared to those with moderate symptoms followed by patients with moderate symptoms compared to those with severe symptoms of psoriasis. The average yearly cost per patient is 266 Euro for psoriasis specific medications and 958 Euro for the out-patient clinic costs. Forty-four patients are prepared to pay between 60 and 120 Euro a month for treating psoriasis, 13 patients are ready to pay up to 60 Euro a month while 45 patients are not prepared to pay.

Conclusion: Cost of treatment does not correlate with the perception held by the patients on improvement of quality of life.

P-120

Quality of life and management of multiple sclerosis

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Aims: To evaluate the impact of quality of life of multiple sclerosis patients receiving interferon beta and to measure the cost of treatment.

Method: A controlled study was carried out where 20 patients (age range 22-67 years) were asked to complete the Multiple Sclerosis Quality of Life-54 (MSQOL-54) measurement instrument. The instrument includes a generic domain and a multiple sclerosis specific domain. An estimate of the direct costs of interferon beta 1a and 1b was calculated.

Results: Test group patients (16) were receiving interferon beta and control group patients (4) were not receiving any treatment. The average physical and mental health scores for the Test Group patients were 55 and 65 whereas those for the Control Group patients were 40 and 55 indicating no statistical difference between the two groups (p value>0.05). The direct cost of treatment was 13024 Euro per patient per year for interferon beta 1a which requires a once weekly intramuscular administration and 12842 Euro per patient per year for interferon beta 1b which requires a subcutaneous administration every alternate day.

Conclusion: There is no significant variation in the cost of therapy for interferon beta 1a and 1b. The study indicates that the use of interferon beta did not have a statistically significant impact on the patients' quality of life.

P-121

Development and evaluation of a Maltese drug reference handbook

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Introduction: The drug reference handbook commonly used by most healthcare professionals in Malta is the British National Formulary (BNF) that does not include all the products imported in Malta.

Aim: To explore the possibility to compile and evaluate an addendum to the BNF of those products available for use in local community pharmacies which are not included in the BNF.

Method: Data (proprietary name, generic name, dose, manufacturer, price) for medicinal products available in a community pharmacy that are not listed in the BNF was compiled. The Addendum was distributed for evaluation to 35 pharmacists and medical doctors.

Results: Out of around 1200 medicinal products in the pharmacy, 550 (46%) were included in the Addendum. The most common classes featured were: blood and nutrition- 96, infections- 62, respiratory- 61, musculoskeletal and joint diseases- 50. The evaluative comments by the health professionals were: useful- 97% (34), and sufficient information presented for each product- 89% (31). Health professionals (94%, 33) were ready to buy the Addendum with 63% (22) willing to pay 12 Euro and 49% (17) buying it every year.

Conclusion: The Addendum provided information on medicinal products that was not being presented in the currently used drug reference handbook. The health care professionals look forward to use the Addendum and are willing to pay for the publication. The information in the Addendum should now be extended to include all medicinal products imported in Malta that are not found in the BNF.

P-122

Readability and use of patient package inserts

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Introduction: Good information is essential for patients to be able to participate actively in patient care. Aims: To evaluate the availability and readability of package inserts (PIs) for medicines available in community pharmacies and to determine the attitude of the public towards PIs.

Method: The PIs presented with 150 medicinal products chosen randomly from a community pharmacy were analysed for patient-friendliness and readability using the Flesch-Kincaid Method. Flesch-Kincaid grade level scores were obtained. A Flesch-Kincaid score of 6-8 is accepted as the reading level of the average consumer. A questionnaire addressed to 150 consumers visiting five community pharmacies chosen by stratified random sampling was developed. The perception of the public of package inserts was evaluated.

Results: Out of the 150 medicinal products selected, 81% (122) contained a PI and of these, 96% (117) were directed towards patients. However, only 9% (10) had an acceptable readability level. Of the consumers interviewed, 87% (131) read PIs focusing on: a) side-effects (89%), b) dosage regimen (85%), c) indications (84%) and d) contra-indications (83%). Of those who read PIs, 33% (43) found them hard to understand.

Conclusion: A number of medications available in the local community pharmacy setting still lack a PI. The relatively large number of PIs with a reading level above that of the average consumer demonstrates that more needs to be done to make PIs more patient accessible.

P-123

Health promotion programmes in community pharmacies

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Aims: To evaluate the feasibility of setting up a health promotion programme in community pharmacies and to assess the impact of the service.

Method: The health promotion programme which was offered for one week at 32 community pharmacies consisted of presentation of information leaflets and posters on diabetes, hypertension and hypercholesterolaemia and on the measurement of blood pressure, blood glucose levels and body mass index. A questionnaire was addressed to the volunteers participating in the study and another questionnaire was administered to the community pharmacists practicing at these pharmacies.

Results: Out of 487 patrons approached, 372 volunteers (76%) participated in the study with 86% (320) stating that they usually ask the pharmacist for health-related information and 68% (253) accepting the provision of

diagnostic services from the pharmacists. All participants agreed that such health schemes should be organised in community pharmacies with 72% (267) being ready to pay 5 Euro for the service. Out of the 40 interviewed pharmacists, 75% (30) were ready to offer such a health promotion scheme with the majority costing the service at 6 Euro. The costs to set up the diagnostic equipment for the scheme is 230 Euro and the expenses for each volunteer are 4 Euro.

Conclusion: Volunteers were ready to accept this service from community pharmacies and were ready to pay a reasonable price for the service. A high number of pharmacists were ready to offer the service at the price patients were ready to pay.

P-124
Development of a diary card for infant colic

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Aim: To develop a diary card to be used by parents to record the occurrence and perceived severity of colic.

Method: The diary card was developed to reflect occurrence of colic (time and duration) over a 14-day period, perceived severity (using a Likert scale from 1 to 5) and interventions undertaken. An information sheet on the use of the diary card was also prepared. The diary card was evaluated by a group of experts (5) and subsequently presented to 90 mothers discharged after normal delivery during a 2-month period.

Results: Out of the 90 diary cards handed out, 29 (32%) diary cards were returned. Of these, 8 cases stopped filling the diary card because dietary intervention resulted in the management of the condition. For the remaining 21 cases, none of the infants had an average daily crying of more than 3 hours per day which is the criterion used to define occurrence of severe colic. The average crying time per day was 45 minutes occurring mostly between 2pm and 10pm (13 cases, 62%). The average severity rated by parents was 3 indicating a moderate severity. A change to low-lactose or soya-based milk was effected in 11 cases (52%) with 4 cases (36%) reporting an improvement in crying spells.

Conclusion: The completed diary card could be used by the practitioner to compile information on the occurrence of the condition and on the outcomes of recommended dietary and lifestyle modifications.

P-125
Chemotherapy patients' knowledge and expectations

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Aims: To assess the knowledge and expectations of breast cancer patients prior to receiving chemotherapy treatment, to establish incidence and severity of side effects and to evaluate effectiveness of education provided.

Method: A prospective study with 25 patients (mean age 58 years, range 27-89) receiving chemotherapy for breast cancer was carried out. Patients were interviewed at pre-treatment stage to assess their knowledge and expectations on chemotherapy. They were again interviewed after their 1st, 3rd and 6th cycle to evaluate incidence and severity of side effects after chemotherapy. Patients received an information booklet prepared by a pharmacist on chemotherapy and occurrence of side effects and the impact of the education received was evaluated.

Results: The most common regimen (72%) for chemotherapy was cyclophosphamide, methotrexate, fluorouracil. At pre-treatment, 48% (12) were satisfied with the information received about the treatment, 28% (7) were satisfied with the information received about side effects to be expected, and 96% (24) wanted more information. At post-treatment, patients reported that they found the treatment more difficult than expected (64%, 16), as expected (24%, 6) easier than expected (12%, 3). The most common side effects reported were hair loss (93%), nausea (88%), fatigue (85%). Patients rated the booklet distributed as useful (92%) and informative (92%).

Conclusion: Patients are not fully satisfied with the information received about chemotherapy and about side effects to be expected. Pharmacists' intervention in the provision of patient education directed to the individual patient's needs is required to provide essential support to patients receiving chemotherapy.