Original Paper

Nonepithelial Gastric Tumours – Diagnostic Problems

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ABSTRACT ***Aim:*** retrospective study based on the analysis of the observation sheets, tracking the main clinical and laboratory traits, of the surgery protocols as well as the results of the histopathologic exam. ***Material and method:*** During the period from January 1998 – December 2007 374 patients having gastric tumours have been admitted and treated surgically of whom 351 have been diagnosed with epithelial tumours and 23 with nonepithelial tumours (mesenchymal). Clinical diagnosis of gastric disease was guided by clinical symptoms and physical examination of patients that revealed: epigastria pain, nonspecific, unsystematised dyspepsia, upper gastrointestinal bleeding or antroduodenal stenosis ,neoplastic impregnation . Clinical diagnosis was supported and complemented by laboratory explorations. ***Results:***Clinical examination, laboratory investigations and especially the bioptic histopathology examination facilitated by the endoscopic and ecoendoscopy, contributed to the preoperative diagnosis of nonepithelial gastric tumour. ***Conclusions:*** Diagnostic errors are due to nonspecific clinical signs, with insidious evolution, the development of tumours deep in the gastric wall and the specificity and sensitivity of stomach examination procedures.

KEY WORDS *Clinical examination, laboratory investigations*

Introduction

Gastric tumours diagnostic supposes solving numerous problems concerning the variety of these tumours both macroscopically and microscopically, their unspecific polymorphic clinical manifestations have an insidious debut and evolution, patients coming to be admitted in severe conditions, with major complications. (1)

Classifying the gastric tumours is done by taking into account the tissue origin: epithelial, non-epithelial (mesenchymal) and other tumours of various origins (cystic, inflammatory, heterotopic, hamartoma) (1,6) .The histopathologic exam is essential to realize this classification and the stages that the diagnostic has to pass through until confirmation represent the basis of this study.

I chose the nonepithelial gastric tumours taking into consideration their low incidence of 3-6%, the profound location within the gastric wall, aspect that can contribute to a late diagnostic and the corresponding treatment.

Material and method

During the period from January 1998 – December 2007 374 patients having gastric tumours have been admitted and treated surgically in the 1st Surgery Clinic of the Emergency Hospital in Craiova, of whom 351 (93,85%) have been diagnosed with epithelial tumours and 23 (6,15%) with nonepithelial tumours (mesenchymal).

Using the group of 23 people, 4 having benign tumours (17,39%) and 19 having malignant tumours (84,61%), I have realized a retrospective study based on the analysis of the observation sheets, tracking the main clinical and laboratory traits, of the surgery protocols as well as the results of the histopathologic exam.

The nonepithelial gastric tumours had a frequency almost equal in men and women (respectively 12 and 11 cases), benign tumours (respectively 3 and 1 cases) as well as malignant tumours (respectively 9 and 10 cases).

Concerning the age distribution, the maximal incidence was within the 4-6 decades of age (17 cases), and within the 20-30 year old range 3 cases were observed. The rural environment prevailed for the benign cases (3 cases), and the urban environment for the malignant ones (11 cases).

The blood group A(II) is present for the 10 cases (3 benign and 7 malignant), and the Rh+ compatibility for the 21 cases (3 benign and 18 malignant).

The analysis of the personal pathologic antecedents showed the existence of a case with a recurrent non- Hodgkin's gastric lymphoma after a complete gastric resection 3 years earlier, of a liposarcoma with a commemorative uninvestigated episode of superior digestive bleeding one year earlier, 2 cases of sliding hiatal hernia, one case of right nephrectomy, one case of total hysterectomy as well as an associated pathology (HTA, ICC, DZ, Glaucom) important for establishing the pre-operatory biologic status of the patient.

The debut of the symptoms was observed within the period ranging from 2 weeks to 3 years for the benign tumours and between 12 hours to 2 years and 6 months for the malignant tumours, these variations being the attribute of the complicated clinical forms.

The main clinical signs that orientated the diagnostic to a digestive suffering and that imposed realizing laboratory investigations to confirm it were:

- Unspecified intermittent stomach pain with partial improvements after treatment, with a insidious debut or sudden installation, for the benign tumours (4 cases) and malignant tumours (14 cases);

- Loss of appetite, eructation, food vomiting, change of bowel habit included within a unsystematised dyspepsia, for the benign tumours (2 cases) and malignant tumours (6 cases);

- Haematemesis, melena in active tumours (5 cases) that debuted as superior digestive bleeding as a consequence of the bleedings and tumor necrosis;

- Loss of weight for the benign tumours (3 cases) and for malignant tumours (5 cases) to which is added physical asthenia, malaise and cachexia in a case with a recurrent non- Hodgkin's gastric lymphoma ;

- Evidenced palpable epigastric tumour in the case of the objective exam of the malignant tumours in 2 cases and hepatomegaly in 4 cases.

Laboratory investigations:

– CBC showed the presence of a secondary deficiency anaemia for 17 cases, a low gravity in 7 cases, medium-4 cases and severe in 6 cases, bleeding being externalized through haematemesis and melaena in 5 cases of malignant tumours and occult in 12 cases (3 benign and 9 malignant);

– hypoproteinaemia (<6 g%) was noticed for 6 cases of malignant tumours and significant increases in ESR (> 80/1h) in 2 cases with benign tumours and 6 cases of malignant tumours ;

– the gastrointestinal barium swallow examination performed in 9 cases reveals incomplete images in the antral region (three benign, three malignant), with infiltrating aspect with multiple superficial ulcerations and thickened folds (three malignant);

– abdominal ultrasound performed on 10 patients revealed hepatomegaly in one case (malignant), peripancreatic lymph nodes, perigastric, lomboaortic, ascites in 1 case (malignant), tumour of 7 cm antral region in 1 case (benign), thick-walled stomach at the antral level and gastric body level in 1 case (malignant), method with low specificity in showing how it belongs to the structure of the gastric wall;

– CT abdomen was performed in 7 cases highlighting either a thick-walled stomach suggesting plastic linita, ascites and multiple lymph nodes in hepatic hilum, spleen, interaortocav (1 case, malignant) or a unique tumour with sizes between 7-12 cm for the small curvature (1 benign, 3 malignant) or large curvature (two malignant);

- upper gastrointestinal endoscopy – (13 cases) shows narrowing of gastric lumen either through extrinsic antral compression (1 benign) or tumour transformation of gastric walls (1 malignant), multiple ulcers and 4 cm tumours in the gastric angle (1 benign), but pseudopolipoid stomach with ulceration of 1cm (1 malignant), polyps on the small curvature and atrophic gastritis (1 malignant) with various aspects that together with the biopsy come to confirm and to complete the diagnosis of the gastric tumours;

– ecoendoscopy (4 cases) showed the precise location of the tumour in the 2-4 layers of the gastric the wall on both the small curvature (two malignant) and the previous faces (one benign) and posterior (two malignant) of the stomach, this method being superior to the digestive endoscopy for the assisted biopsy;

– preoperative histopathology examination through tumour biopsy was performed in 17 cases, helping to establish the diagnosis in 9 cases (3 benign, 6 malignant).

Biopsy was not performed in 5 cases (malignant) that required emergency surgery for bleeding ulcer debut in 3 cases with stenosis (one benign, two malignant) and in 6 cases (malignant) the result of the histopathology examination was inconclusive.

Results

Clinical examination, laboratory investigations and especially the bioptic histopathology examination facilitated by the endoscopic and ecoendoscopy, contributed to the preoperative diagnosis of nonepithelial gastric tumour, benign or malignant, in 9 cases and thus the appropriate treatment was applied. Postoperative diagnosis was noted for 8 cases with complicated clinical forms (5 upper gastrointestinal bleeding, 3 stenosis) and 6 cases with inconclusive histology. Based on histopathological examination results, the composition of the studied group was established:

– benign tumours (4 cases): lipoma (1 case) and fibromyoma (3 cases);

– malignant tumours (19 cases): lymphoma 11 cases (9 centrocytic type, 1 imunoblastic, 1 lymphoplasmacytoid) liposarcoma (one case), fibrosarcoma (4 cases); Kaposi's sarcoma (one case); schwanom malignant (1 case) ; leiomyosarcoma(1 case)

Discussion

Nonepithelial gastric tumours is about 3-6% of gastric tumours with benign or malignant character in 2-3% of gastric tumours (1,3).

Epidemiological data have reduced importance in determining the etiopathogeny nonepithelial gastric tumours (2).

Clinical diagnosis of gastric disease was guided by clinical symptoms and physical examination of patients that revealed:

–recurrent or persistent epigastria pain, nonspecific,

–signs of a unsystematised dyspepsia,

–signs of upper gastrointestinal bleeding or antroduodenal stenosis that led to the surgical indication,

–signs of neoplastic impregnation that have raised suspicion of malignancy.

Clinical diagnosis was supported and complemented by laboratory explorations, but biological samples have specificity for diagnosis of gastric tumours, changes in blood count, protein levels contribute to determine the biological status of the patient preoperatively.

Gastrointestinal barium swallow examination remains a valuable method for exploring the pathology of stomach functional morphological information showing incomplete images, infiltrative, ulceration, thickening of mucosal folds and complications (stenosis, fistula) (5).

Transabdominal ultrasound of the stomach is restricted by air that reduces visibility of content, managing in some cases to highlight, along with CT, the presence of tumour, changes in gastric wall, local or remote extension.

Digestive endoscopy specifies the number, location, volume, and macroscopic appearance of tumour, mucosal thickening and ulceration of the mucous membrane folds and allows biopsies to be performed in depth in the submucous and not to the tumour surface.

Ecoendoscopia is the ideal way to highlight the gastric wall structure (the muscle layers being hypoechogene, other hyperechogene) and associated to the histological examination enables preoperative diagnosis of gastric tumours correctly. (3)

Histological examination by biopsy diagnosis and fails to define this in 44-96% of cases (4).

Conclusions

1. Diagnosis of nonepithelial gastric tumours is closely related to the onset of symptoms to guide to a type of digestive distress or the possibility of making a specific screening of at-risk population.

2. Diagnostic errors are due to nonspecific clinical signs, with insidious evolution, the development of tumours deep in the gastric wall and the specificity and sensitivity of stomach examination procedures.

3. Positive diagnosis recommended assisted standard biopsy by ecoendoscopy.

4. Uncertain preoperative diagnosis and clinical forms require complicated surgery.

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