

Regional review of patients with psoriatic arthritis in secondary care in the West Midlands: prevalence, disease activity and eligibility for anti-tumour necrosis factor therapy

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Abstract

Objective

Tumour necrosis factor α -blockers (TNF- α) are licensed for the treatment of psoriatic arthritis (PsA) and their use has been approved by the National Institute for Health and Clinical Excellence (NICE) for use in the United Kingdom under a set of defined clinical criteria.

Methods

In this out-patient study we evaluated PsA in rheumatology secondary care clinics in units across the West Midlands over a 2-week period, assessing prevalence, disease activity and eligibility for anti TNF- α treatment as defined by the NICE criteria.

Results

Of the 1718 forms returned from the 2000 sent (86% response rate), 175 patients had PsA (10.2%). Of those, 22 (12.6%) were already on anti TNF- α treatment. 12 patients were noted to have purely axial disease and as per the NICE guidelines should not be assessed under the PsA criteria. A further 5 patients fulfilled the criteria for treatment with anti TNF- α with no contraindications. In the region 22 out of 27 patients (81%) with active disease were correctly on Anti TNF therapy. In total 27 (15.4%) patients with PsA met the NICE criteria for treatment of PsA with anti TNF- α therapy. 3 patients had previously failed anti TNF- α treatment. No patient fulfilling criteria for treatment were found to have any contraindications to treatment.

Conclusion

We note the relatively high proportion of PsA patients eligible for treatment with anti TNF- α blockers in the region (15.4%) compared to the NICE estimate (2.4%). This may be in part explained by a selection bias. However, the results may have significant implications for healthcare provision given the relatively high cost of anti-TNF- α agents. We comment on the limitations of such criteria and the effective use of regional collaboration for both training and audit purposes.

Key words

Psoriatic, arthritis, prevalence, eligibility, anti TNF, NICE, United Kingdom, cost.

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Introduction

Psoriatic arthritis is a chronic inflammatory arthropathy with a prevalence estimated at between 0.1 and 1% (1). Its course is not benign and it commonly results in erosive disease causing progressive disability and significant functional impairment. (2) Treatment of PsA historically was mainly with non-steroidal anti-inflammatory agents and traditional disease-modifying anti-rheumatic drugs (DMARDs). A number of DMARDs have proven efficacy including methotrexate, sulfasalazine, cyclosporine and azathioprine, with leflunomide being the most recently licensed in the UK (3, 4).

TNF- α -blockers have well-documented efficacy in the treatment of PsA and have been shown to improve outcome (5-7). Infliximab, etanercept and most recently adalimumab are currently licensed for PsA treatment in the UK. Recommendations for prescribing these agents were published by the British Society of Rheumatology (BSR) in 2005 (8). NICE subsequently approved TNF- α -blockade for PsA in July 2006 (9), with adalimumab being approved in 2007 (10). Anti TNF- α treatment is currently reserved for patients with severe peripheral disease who have failed the conventional therapeutic options. It is currently recommended that Ankylosing Spondylitis (AS) guidelines for anti TNF- α treatment are used for the management of PsA patients with axial disease (8). Separate guidelines exist for the specific treatment of skin psoriasis with TNF- α -blockers (11).

The NICE criteria for treating PsA with TNF- α -blockade rely primarily on measurements of joint disease activity and previous drug treatment in the form of DMARDs.

To be eligible for treatment, there has to be sufficient disease activity and unsuccessful DMARD treatment. Activity is defined by patients having 3 swollen and 3 tender joints on 2 consecutive occasions 1 month apart. Patients also need to have been treated with 2 DMARDs (ideally for at least six months, at an appropriate dose either individually or in combination). There are exceptions in relation shorter durations of treatment relating to side effects

and drug toxicity. Current NICE guidelines do not approve anti TNF- α agent switching. A summary of the treatment algorithm can be seen in Figure 1.

The West Midlands has a population of 5.3 million, served by 49 consultant rheumatologists in 14 centres. The economic impact on patients treated with anti TNF- α is currently unclear regarding to issues such as economic benefits from continuing employment. Current estimates in the United Kingdom for cost per quality adjusted life year (QALY) are between approximately £26,000 and £31,000 for etanercept (with yearly recurrent total treatment cost for etanercept estimated at £9500) (12). In order to effectively plan the organization of both clinical and financial resources for PsA treatment information regarding disease prevalence and anti TNF- α treatment eligibility is required. The aim of this regional study was to review PsA in rheumatology units across the West Midlands assessing prevalence, disease activity and eligibility for anti TNF- α treatment as defined by the NICE criteria.

Methods

The audit was performed on behalf of the West Midlands Rheumatology Services and Training Committee (WMRSTC). Of the 14 rheumatology units in the region, 13 took part in the study. Specialist registrars (rheumatology doctor in training towards consultant physician grade) were responsible for data collection in their respective units. A detailed computer readable proforma was designed in order to collect information which included demographic details, rheumatoid factor seropositivity, pattern of joint involvement, DMARD therapy including dose and duration of therapy, PUVA (psoralens ultraviolet A) light exposure with cumulative dose where recorded and any contra-indications to biologic therapy. Two thousand proformas were distributed to local units. For the purpose of the study, patients were considered to have PsA if their primary rheumatological diagnosis was recorded in the case notes as psoriatic arthritis by the attending physician. Swollen and tender joint counts were recorded for all

Competing interests: none declared.

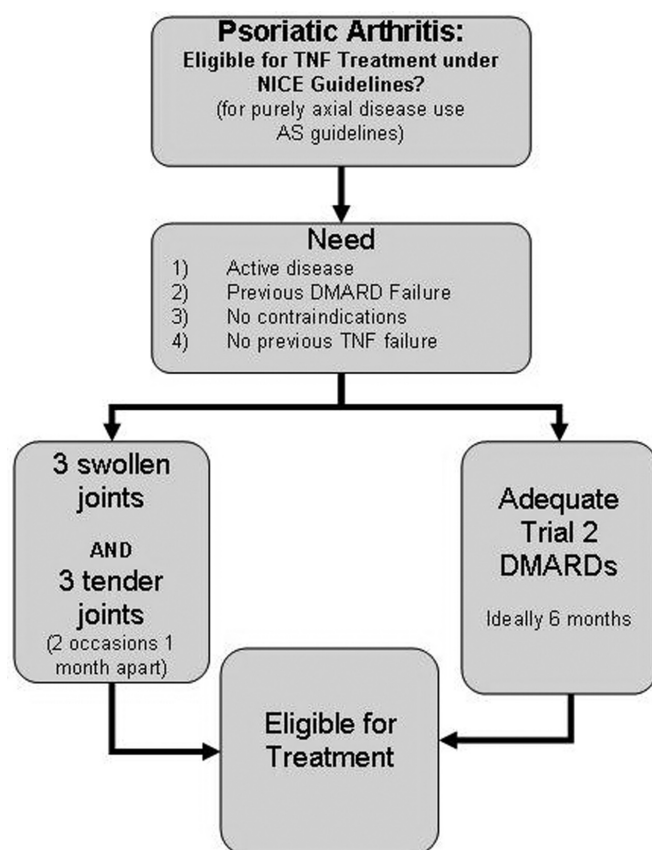


Fig. 1. Summary of NICE requirements for anti TNF- α treatment.

or nurse specialist. Completed forms were collated centrally and analysed.

Results

Data were collected on 1,718 patients attending rheumatology secondary care clinics in total (86% response rate). Of these patients attending secondary care clinics, 175 (10.2%) had the primary a diagnosis of psoriatic arthritis. Further data analysis was performed on this cohort only. The patient demographics are shown in Table I.

Of the 175 PsA patients, 22 (12.6%) patients were already established on anti TNF- α therapy at the time of the study, all of whom had peripheral joint involvement. The majority of patients (146, 83.4%) were not on anti TNF- α treatment. Data was not recorded for 7 patients.

Of the patients not currently on anti TNF- α therapy, 109 (74.7%) patients had had an adequate trial of at least one DMARD. The most common adequately trialled DMARD was methotrexate (73, 50%), followed by sulfasalazine (63, 43.2%), leflunomide (13, 8.9%), azathioprine (13, 8.9%) and cyclosporine (11, 7.5%). Twelve (8.2%) patients had had a previous trial of anti TNF- α therapy. The number of patients who had received an adequate trial of 2 or more standard DMARDs was 48 (32.9%).

With regards to disease activity, thirty-one (21.2%) of the patients not currently on anti TNF- α treatment had 3 or more swollen joints at the time of assessment and 30 (20.5%) patients had 3 or more tender joints. The number of patients who had 3 or more tender, and 3 or more swollen joints was 21 (14.4%).

When the NICE guidance is applied to the above group of patients not currently on anti TNF- α , the number who have both 3 or more swollen, and 3 or more tender joints and have received an adequate trial of at least 2 standard DMARDs is 8 (5.5%, see Fig. 2). However, 3 of these patients had already received an adequate trial of an anti TNF- α agent and would therefore not be eligible for further anti TNF- α treatment. None of the remaining 5 patients had contra-indications to anti TNF- α therapy. Out of the 146 patients, only 6 (4.1%)

Table I. PsA patient demographics.

Demographic		No. of patients (%)
Sex	Male	82 (46.9)
	Female	81 (46.3)
	Audit proforma incomplete	12 (6.9)
Age (yrs)	<25	10 (5.7)
	25-49	79 (45.1)
	50-74	79 (45.1)
	>74	3 (1.7)
	Audit proforma incomplete	4 (2.3)
Joint involvement	Peripheral	114 (65.1)
	Axial	12 (6.9)
	Peripheral & axial	42 (24)
	Unspecified	7 (4)
RhF	Positive	11 (6.3)
	Negative	99 (56.6)
	Not specified by physician completing proforma	65 (37.1)
TNF treatment (all patients with PsA, n=176)	Currently on Anti TNF	22 (12.5)
	Previously on Anti TNF (now stopped)	3 (1.7)
Disease activity in patients eligible for assessment (n=146, current TNF treatment and pure axial disease excluded)	≥ 3 Swollen and 3 tender joints	21 (14.3)

patients with PsA. The proforma was piloted in one of the participating units before the audit was undertaken. Data were collected prospectively over a 2-week period in November 2007 from

adult rheumatology out-patient clinics at each unit. Both doctor and nurse-led clinics were included with a mix of both new and follow-up patients. Proformas were completed by the attending doctor

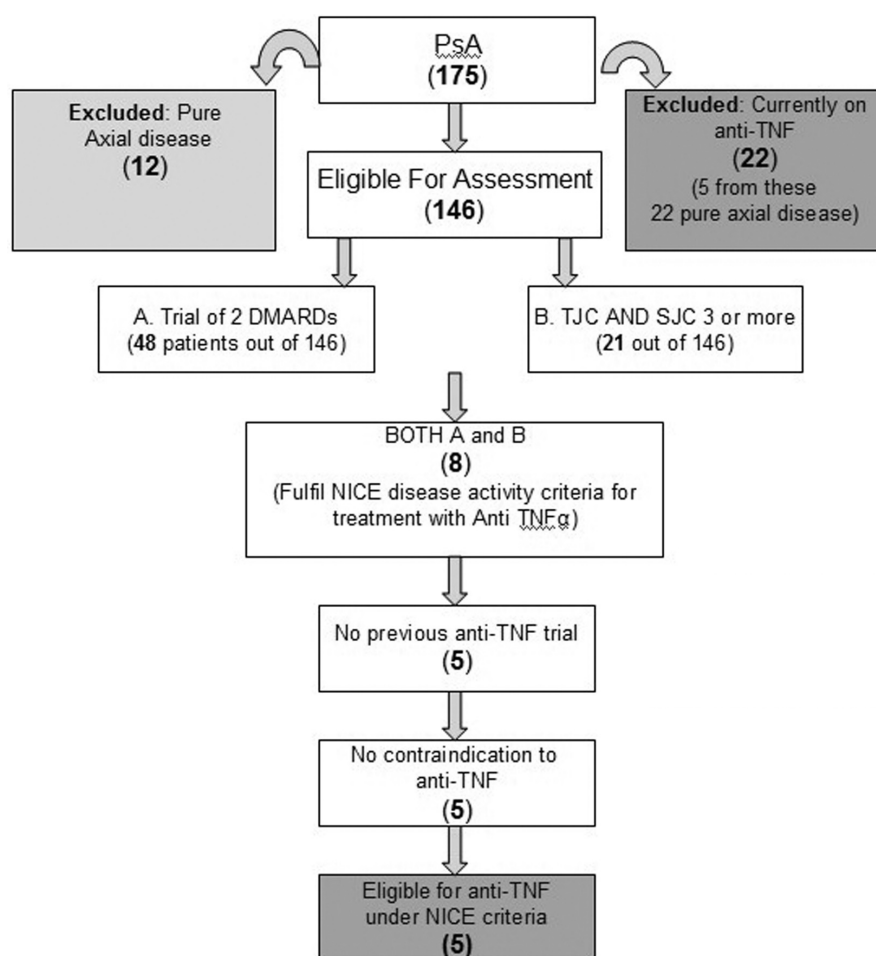


Fig. 2. Flow-chart showing application of NICE criteria for anti TNF- α treatment to the patients with PsA. TJC: tender joint count; SJC: swollen joint count; Number of patients at each stage shown in brackets.

were recorded as having any contra-indication (malignancy 1, systemic infection 1, unspecified 4). Twelve patients had received PUVA but none of these patients were either currently receiving or eligible for anti TNF- α .

Discussion

In the West Midlands region the prevalence of PsA in general adult rheumatology out-patient clinics was around 11%. To our knowledge this is the only study to date to derive a percentage prevalence figure for eligibility to biological therapy for PsA in secondary care rheumatology follow up clinics. Its regional design minimises the effects of divergent clinical practices, referral patterns and local population bias to which smaller studies may be vulnerable. Results were consistent with the previous reported pattern of PsA joint

involvement (predominantly peripheral joint involvement, one quarter both axial and peripheral disease). A small proportion had purely axial disease. For example we saw purely axial disease in 6.9% and an equal sex distribution comparable with the findings of Jones *et al.* who was sacroiliitis in 6% of patients with an equal sex distribution (13).

We note that 22 out of 28 patients eligible for anti TNF- α therapy were on treatment (78.5%). This represents a high percentage of patients eligible for therapy on treatment. It is interesting to note the proportion what is the proportion of the patients with active disease (3 swollen and 3 tender joints) who have not been exposed to ≤ 1 DMARD (13 patients from 21 with active disease). This poses another important economic consideration for the longer term.

Within the two week assessment period the percentage of patients seen in the West Midlands with PsA eligible for or already on anti TNF- α therapy was 15.4%. This figure is 6 times higher than the estimated 2.4% eligibility used in the NICE technology appraisal in 2006 (14).

In 2003, a similar study assessing the eligibility of patients with rheumatoid arthritis (RA) for anti TNF- α showed that the prevalence of patients with RA attending adult rheumatology out-patient clinics in the West Midlands satisfying criteria for anti TNF- α therapy was 5.6% (15). The lower prevalence of eligible RA patients is probably largely accounted for by the more complex qualification criteria for RA than for PsA which also include measures of acute phase reactants and global health.

If we apply these data to NICE own estimated number of cases in England (74,449 based on a PsA prevalence of 0.15%) we see that the number of patients fulfilling criteria would be 1489 patients based on the NICE estimate and 11465 based on our own data. As such in the region we seem to have a high proportion of patients are eligible for anti TNF- α therapy.

Given the higher prevalence of RA than PsA in the general population the economic costs of anti TNF- α therapy for the two diseases are likely to be similar. It is likely that our data overestimates the proportion of patients fulfilling the NICE criteria as a result of a follow-up bias (the more severe cases being followed up more frequently and thus appearing more commonly in the follow-up period). Nevertheless, our results hopefully provide valuable information for use by commissioning primary care trusts and secondary care providers to aid resource planning for PsA patients.

It is unlikely that there are many additional PsA cases locally under National Health Service (NHS) care that would not be under the audited clinics. In the UK, the vast majority of patients with PsA are under ongoing follow up in rheumatology secondary care clinics. The NICE guidelines for PsA state that TNF- α should only be prescribed by a rheumatology specialist. As such, primary care physicians do not prescribe

TNF- α therapy. Our data analysis excludes the small proportion of patients with only axial disease who would need to be assessed independently using the NICE AS criteria to determine their eligibility for anti TNF- α . It seems likely that inclusion of this subset of patients would further increase the prevalence of PsA patients eligible for anti TNF- α treatment.

Another potential limitation of the NICE guidance is its strict eligibility criteria. Markers of quality assessment for PsA have been published (16), and many of these domains fall outside the PsARC activity assessment used by NICE for TNF- α treatment (14). For example, if an individual patient does not fulfil 'numerical' joint involvement criteria (*e.g.* 2 highly active large joints), they will potentially be denied/delayed treatment irrespective of the consequences of disease in those joints involved. Rather than proposing a change to current guidelines, it is perhaps more appropriate to note the option of appeal on a case by case basis for such treatments. One strength of the NICE guidance is that it secures NHS funding for all British patients with active PsA who fulfil these criteria (3 or more swollen and tender joints), an important step in the UK where funding for healthcare and particularly new expensive therapies is centrally controlled.

There are a number of limitations to our study. The vast majority of patients receiving DMARDs will be under secondary care clinics in the region, however there is a potential selection bias. Patients with active disease in the UK are likely to be followed up at closer intervals, with stable patients being followed up less frequently (in part due to service limitations). In any 2-week period (as in this audit), patients with more active disease are likely to be reviewed in clinic than those with less active disease. As previously stated, some

patients with inactive psoriatic arthritis may be under primary care physicians, or remain undiagnosed. Although this makes it more difficult to draw firm conclusions from our data, we do not feel these factors account for the large (6-fold) difference between eligibility estimates.

This study highlights the importance and information that can be gained from a regional multi centre audit. As well as providing training to specialist registrar level trainees it helps highlight the central role of audit in health care delivery and understanding of health economics. For example, using our data we estimate the number of potential patients needing anti TNF- α in the region may be much higher than previously thought.

Key points

- Anti TNF- α therapy is licensed and approved by NICE for the treatment of active psoriatic arthritis;
- The true prevalence of patients with active psoriatic arthritis is not known;
- The cost of providing anti TNF- α drugs is based on estimates of patients fulfilling eligibility criteria for treatment;
- We estimate that a significantly higher number of patients will fulfil criteria compared with previous NICE estimates (15.4% *vs.* 2.4%).

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