Rheumatology key message

- PET could be a useful adjunct in the evaluation of patients with steroid-resistant PMR.

**Disclosure statement:** The authors have declared no conflicts of interest.

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In total, 23 candidates were assessed using the marking criteria. Table 1 shows the number of positive responses to each indicator. The table indicates that the majority of candidates would contact orthopaedics (16/23) and did not explain their management plan to the patient (0/23). Only 2/23 candidates said they would inform the rheumatology team that a patient of theirs on anti-TNF therapy had been admitted with a septic arthritis, in contrast to 16/23 who would have contacted orthopaedics alone. Indeed, 5/23 candidates felt the case did not warrant input from either rheumatology or orthopaedics. Not one of the candidates felt it prudent to withhold immunosuppression and no one explained their management plan to the patient (Table 1).

Overall, the consensus of the trainees was that such a patient should be managed by orthopaedic surgeons and the role of the rheumatologist in the care of this patient was not considered by the majority of candidates. Indeed, involving a rheumatologist is not mentioned in the acute General Internal Medicine (GIM) curriculum (at level 1 competencies) pertaining to septic arthritis, only surgical intervention [1]. We would argue that early referral to a rheumatologist is vital in the management of such a presentation, in view of the immunosuppression used for treatment. Surgical and possibly some medical colleagues may not be so familiar with the range of drugs now used. Serial aspiration of septic joints and appropriate intravenous anti-microbial therapy are well-established methods of treatment [2, 3]. In a recent systematic review, there was no evidence to suggest that surgery was superior to serial aspiration or vice versa [4]. Of course, should conservative measures be unsuccessful, or indeed the joint itself be inaccessible to routine aspiration, such as SI joints, then surgical intervention should be sought.

Although rheumatology is a small speciality and cannot always provide a 24-h emergency service, involvement of the treating rheumatologist should be at the earliest opportunity. Such chronic patients are often managed by rheumatologists on an outpatient basis and inevitably follow-up falls into the hands of such specialist care. Trained and experienced in the management of such patients, disease processes and presentations, a rheumatologist should be the initial specialist to involve in such a presentation as described during the interview process. Unfortunately, the results above suggest the perception of the management of a patient with septic arthritis with RA and on potentially toxic treatment with anti-TNF drugs is far from ideal among core medical trainees.

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**Rheumatologists are not perceived as being able to treat septic arthritis by core medical curriculum or by core medical trainees**

Sir, Little needs to be said regarding the trauma of the launch of Modernising Medical Careers (MMC) in 2007. Nonetheless, this did make the evaluation and scrutiny of the interview processes possible. In the Northern Deanery, the core medical training (CMT) interview was divided into three sections as follows: a communication station, a case-based discussion and a structured interview. The use of such methods was agreed by consensus at CMT strategy meetings, chaired by the Regional Advisor, Royal College of Physicians of London. These included the CMT programme directors, regional RCP college tutors and physicians who had expressed an interest in helping with the process. Most medical specialties were represented.

One such case-based discussion described a patient with RA currently on anti-TNF immunosuppressive therapy and presenting with a septic arthritis.

This case was used in some interviews where the trainee was applying at specialty training 2 (ST2) level in CMT. As the candidates answered pre-determined questions, the two interviewers both happened to be consultant rheumatologists, documented their answers. Specific positive and negative indicators were used for marking purposes in each section. Areas of particular interest were which specialty would the candidate inform (rheumatology or orthopaedics), whether they would suspend immunosuppression and whether they would explain their management plan to the patient.

In total, 23 candidates were assessed using the marking criteria. Only 2/23 candidates said they would inform the rheumatology team that a patient of theirs on anti-TNF therapy had been admitted with a septic arthritis, in contrast to 16/23 who would have contacted orthopaedics alone. Indeed, 5/23 candidates felt the case did not warrant input from either rheumatology or orthopaedics. Not one of the candidates felt it prudent to withhold immunosuppression and no one explained their management plan to the patient (Table 1).

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**Rheumatology key message**

- Rheumatologists are not perceived as able to treat septic arthritis by GIM curriculum or trainees.

**Disclosure statement:** N.K. is a post-graduate medical education and training board member. All other authors have declared no conflicts of interest.

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**Table 1. Number of positive responses to each indicator**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>n</th>
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</thead>
<tbody>
<tr>
<td>Contact orthopaedics</td>
<td>16</td>
</tr>
<tr>
<td>Contact rheumatology</td>
<td>2</td>
</tr>
<tr>
<td>Contact no one</td>
<td>5</td>
</tr>
<tr>
<td>Suspend immunosuppression</td>
<td>0</td>
</tr>
<tr>
<td>Explain to patient</td>
<td>0</td>
</tr>
</tbody>
</table>
Sir, Pulmonary nodulosis is an unusual extra-articular manifestation of rheumatoid disease. We report a case of a patient with seropositive erosive RA who developed cavitating pulmonary nodulosis during the first few months of treatment with the recombinant soluble TNF-α-receptor, etanercept. To our knowledge, it is the fifth reported case of pulmonary nodulosis in rheumatoid patients treated with etanercept. In all previous cases, etanercept was stopped when pulmonary nodulosis was diagnosed. As far as we are aware this is the first reported case of continuing etanercept treatment and shows that the condition does not necessarily progress. This case also illustrates the utility of T-spot screening in excluding Mycobacterium tuberculosis (TB) during anti-TNF treatment.

A 57-yr-old female with a 20-yr history of seropositive erosive RA was reviewed in December 2005. Previous treatments with MTX, SSZ, and penicillamine had been poorly tolerated or ineffective. Ongoing treatment with LEF (20 mg/day) and oral prednisolone (7.5 mg/day) was of limited efficacy (DAS28 score in December 2005 was 5.97).

There was no significant past medical history. The patient was a non-smoker with no previous exposure to TB and had been given a Bacille Calmette-Guerin (BCG) inoculation as part of her childhood immunizations. Routine pre-treatment screening involved a chest radiograph (normal) and a Heaf test (negative).

Due to ongoing disease activity, etanercept was commenced in June 2006 (25 mg subcutaneously twice weekly) in combination with LEF and prednisolone. A significant clinical response to treatment was seen during the first 3 months of treatment [DAS28 score at 12 weeks 4.87 (reduction of 1.88)].

A monitoring chest radiograph in March 2007 (9 months into treatment) showed a new area of opacity at the left lung base. The patient reported feeling well although direct questioning revealed a feeling of pressure around the lower ribs and an occasional dry cough. There was no weight loss, malaise or fever. A high-resolution CT scan of the chest was performed (Fig. 1). The appearance was suggestive of cavitating pulmonary nodulosis secondary to rheumatoid disease, although TB remained an important differential. An enzyme-linked immunospot assay for IFN-γ release from T cells (T-spot test) was undertaken to exclude recent or previous TB exposure. This was conclusively negative.

After discussion with the patient, etanercept was continued in combination with LEF and prednisolone. The decision not to discontinue etanercept was influenced by the rheumatological response to treatment and the fact that the nodules were relatively asymptomatic. With regular clinical and radiographic follow-up the patient remains well; there is no evidence of progression of the lung nodules and the minor respiratory symptoms have resolved.

Rheumatoid nodules occur in ~25% of the patients with RA [1]. They are associated with seropositivity, severe articular disease, smoking and a genetic predisposition (HLA-DRB1). Commonly occurring subcutaneously at sites of external pressure (frequently the elbow), they may also involve internal tissues especially at sites of mechanical stress (lung or heart valves).

Accelerated pulmonary nodulosis is a recognized complication of MTX [1, 2] and LEF [3] therapy in RA patients. There are to our knowledge four previously reported cases of accelerated pulmonary nodulosis following treatment with etanercept. Interestingly, in two of the other cases the patient was on combination treatment with LEF [4, 5]. In each case, etanercept was withdrawn after the discovery of pulmonary nodulosis. In two, a conservative approach was adopted, while the remaining two were treated with prednisolone and AZA. In the three cases where the outcome is known, the nodules regressed within 3 months [4–6]. This is the first report of continued treatment with etanercept and shows that progressive nodulosis is not inevitable.

Pulmonary tuberculosis is an important differential diagnosis in cavitating lung disease and since anti-TNF treatment is recognized as causing reactivation of latent TB [7], exclusion of tuberculosis is a key component of management. Tuberculin skin testing is associated with a significant incidence of false-negative results, particularly in those who are immunosuppressed [8]. It also shows reactivity in patients exposed to non-tuberculous Mycobacterium (including BCG). The enzyme-linked immunospot assay for IFN-γ release from T cells (the T-spot test) is a recently developed technique that detects IFN-γ release from activated T cells in vitro, in response to M. tuberculosis-specific antigen. It has a greater sensitivity than tuberculin skin testing and a greater specificity (since it does not cross-react with non-tuberculous Mycobacterium) [9].

In conclusion, this case highlights a number of important issues: first, pulmonary nodulosis is recognized with etanercept treatment, but it may not be necessary to discontinue etanercept, particularly in patients such as ours who are relatively asymptomatic and whose musculoskeletal disease is responding. The case also demonstrates the need for careful monitoring during treatment with biologics, as well as the utility of the T-spot test in eliminating the important differential diagnosis of TB.

References