**CONCUSE REPORT**

**Recognition of inflammatory back pain and ankylosing spondylitis in primary care**

R. N. Jois\(^1\), A. J. Macgregor\(^2\) and K. Gaffney\(^2\)

**Objective.** The diagnosis of AS is often delayed in primary care. This may partly be due to inability to differentiate inflammatory back pain (IBP) from mechanical. The aim of this study was to assess current practice of general practitioners (GPs) in using clinical, radiological and laboratory investigations to assess patients with IBP.

**Methods.** A postal questionnaire was sent to all GPs in Norfolk. It was designed to test GPs ability to identify symptoms suggestive of IBP in patients with back pain. It also enquired whether GPs considered other features of SpA. Their perceptions of usefulness of various investigations when considering a diagnosis of AS, management and their unmet needs were recorded.

**Results.** A total of 62% of completed questionnaires were returned. Only 5% of GPs could identify all eight features known to be indicative of IBP, 78% between four and eight and 17% identified less than four features. GPs had a range of views regarding the utility of a positive family history, HLA-B27, use of X-ray and physiotherapy in patients with suspected IBP. GPs awareness of the associated features of SpA was low. There were inconsistencies in the use of diagnostic tests and management of AS. Improving musculoskeletal education in primary care was identified as one of the unmet needs by the majority of GPs.

**Conclusions.** In a survey of GPs, we identified inconsistencies in their perceptions and approach to the diagnosis and management of AS. Education in primary care and the wider use of diagnostic algorithms may improve early detection and hence outcome of AS.

**Key words:** Ankylosing spondylitis, Inflammatory back pain, Primary care.

**Introduction**

The diagnosis of AS is often delayed in primary care. This may partly be due to inability to differentiate inflammatory back pain (IBP) from mechanical. The aim of this study was to assess current practice of general practitioners (GPs) in using clinical, radiological and laboratory investigations to assess patients with IBP. We also examined GPs perceptions of the usefulness of a positive family history, HLA-B27 status (in the relevant population) and spinal radiography are useful in establishing a diagnosis of AS [11]. The inclusion of these variables in daily clinical practice is in part dependent on the awareness of their importance in the diagnostic algorithm.

It is not clear as to what extent the recent developments on the application of diagnostic criteria for diagnosis of AS has permeated into primary care. The aim of this present study was to assess current practice in terms of the way in which general practitioners (GPs) use clinical, radiological and laboratory investigations to assess patients with IBP. We also examined their perceptions of the management of AS and of their unmet needs.

**Materials and methods**

A postal questionnaire was sent to all the GPs (both urban and rural) in Norfolk serving a population of ~500 000. The questionnaire was designed to test the GPs ability to identify symptoms suggestive of IBP in patients <40 yrs of age presenting to primary care physicians with low back pain. It also enquired whether GPs considered other known features of SpA such as psoriasis, IBD, recent genitourinary/gut infection, uveitis, dactylitis and enthesitis in routine evaluation (yes or no reply). The GPs perceptions of the usefulness of a positive family history, HLA-B27 status, inflammatory markers (ESR/CRP) and spinal X-rays, together with a clinical history of IBP when considering a diagnosis of AS, were ascertained using a 10-point Likert scale (where 0 is not important at all and 10 is very important). GPs were also asked how often they checked the HLA-B27 status in clinical practice (always, sometimes, rarely or never).

The GPs were questioned about their approach to the initial management of patients with IBP, their awareness of new treatment options and their opinion regarding the unmet needs in the care of patients with AS. These were recorded as free text. The data were analysed using stata version 9.0. (Stata Corporation, TX, USA).
Results
A total of 300 questionnaires were sent out and 186 (62%) completed questionnaires were returned.

IBP

Of the eight features known to be indicative of IBP (insidious onset, duration >3 months, back pain relieved by exercise, not relieved by rest, morning stiffness >30 min, nocturnal pain, alternating buttock pain, good response to anti-inflammatory drugs) only 5% of GPs could identify all eight, 78% between four and eight and 17% identified less than four features. The proportion of GPs who identified the various individual symptoms suggestive of IBP is shown in Table 1. Only 5% of GPs identified all the four key symptoms as suggested by Rudwaleit et al. [10]. Seventeen per cent indicated that they did not ask/look for any of the other features of SpA and only 6% considered all of them.

The proportion of GPs who considered other known features of SpA in routine evaluation of a patient with low back pain is also shown in Table 1.

Perceptions and practice

Perceptions of GPs on the utility of family history, HLA-B27 status, inflammatory markers, spinal X-rays and physiotherapy in a patient with IBP (expressed on a 10-point Likert scale) are shown in Table 2. Although many of the GPs felt the HLA-B27 test was important, 17.2% commonly and 17.7% never checked HLA-B27 while 32.2% sometimes and 32.7% rarely did so in routine clinical practice.

Thirty-two per cent of the GPs had problems with access to physiotherapy, with waiting times for the first session >2 months. Physiotherapy was readily available (<2 weeks wait) for only 2% of the GPs. NSAIDS were the initial prescription of choice to treat IBP for 93%. In reply to a question regarding awareness of new treatment modalities for AS, 26% of GPs mentioned anti-TNF therapy while the remainder were unaware of any new treatments (free-text reply).

Unmet needs

The free-text column was used by 54.8% of the GPs to describe their thoughts about unmet needs in AS. Physiotherapy (lack of availability/long waiting times/need for a specialist physiotherapist/easy, quicker and better access) was felt to be the main unmet need by 32% of the GPs, while 22% felt it was diagnosis and treatment of AS [differentiating IBP from mechanical back pain (MBP), need for a diagnostic triage, confident primary care approach and need for referral guidelines, one-stop back pain clinic, inability to perform HLA-B27, availability of biologic drugs]. Education (both patient and doctor) was identified as the principal unmet need by 16% of the respondents while delayed hospital appointment for rheumatologist consultation was cited by 9% of them. Twenty-one per cent said that there were no unmet needs.

Some of the free-text comments by the GPs were as follows:

‘I don’t see many AS patients but then maybe I just don’t recognise them’.
‘I seldom suspect IBP. Now that there are really effective treatments we need to have heightened awareness’.
‘Since the disease is not frequent it probably tends to be overlooked’.
‘I have lost some of my old AS patients who do not have follow-up appointments since they were in the past told that there was no effective treatment’.
‘I don’t think there are any unmet needs in AS. I have seen less than five patients with AS over the last 25 yrs in practice’.

Discussion

This survey of GPs highlights the inconsistencies in diagnosis of IBP and management of AS in Norfolk. IBP is present in a majority of patients with AS and in up to 70% with SpA [12, 13]. It has been suggested that the probability of having axial SpA is ~2% if a patient with low back pain does not have IBP [14]. Hence, screening for presence of symptoms suggestive of IBP in patients presenting with low back pain to the primary care physician would be an ideal way for identifying patients with SpA in the community. Although IBP as the sole referral criterion for primary care physicians when referring patients with low back pain to a rheumatologist (in order to exclude SpA) may not be entirely appropriate (low sensitivity of 75%), using a combination of criteria for screening purposes would reduce the sensitivity even further and would also make it more difficult for the GPs [15]. On the other hand, presence of IBP on its own increases the probability of having axial SpA to 14%, and hence makes IBP a useful screening criterion while assessing young adults with low back pain in the community [14].

Brandt et al. [16] recently published their experience of performance of referral recommendations in patients with chronic back pain. The presence of at least one of the following screening parameters: IBP, positive HLA-B27 and sacroiliitis detected by imaging, helped in making a definitive diagnosis of axial SpA

### Table 1. Proportion of GPs who identified various individual symptoms of IBP and associated SpA features

<table>
<thead>
<tr>
<th>Symptoms of IBP</th>
<th>Proportion of GPs (%) (from 186 responses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning stiffness &gt;30 min</td>
<td>90</td>
</tr>
<tr>
<td>Insidious onset</td>
<td>80</td>
</tr>
<tr>
<td>Pain relieved by NSAID</td>
<td>75</td>
</tr>
<tr>
<td>Symptom duration &gt;3 months</td>
<td>73</td>
</tr>
<tr>
<td>Nocturnal pain</td>
<td>67</td>
</tr>
<tr>
<td>Pain improved with exercise</td>
<td>50</td>
</tr>
<tr>
<td>Pain not relieved by rest</td>
<td>45</td>
</tr>
<tr>
<td>Alternating buttock pain</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associated SpA features</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psoriasis</td>
<td>96</td>
</tr>
<tr>
<td>IBP</td>
<td>68</td>
</tr>
<tr>
<td>Uveitis</td>
<td>60</td>
</tr>
<tr>
<td>Genitourinary/gut infection in the last month</td>
<td>41</td>
</tr>
<tr>
<td>Enthesitis</td>
<td>17</td>
</tr>
<tr>
<td>Dactylitis</td>
<td>17</td>
</tr>
</tbody>
</table>

### Table 2. Perceptions of GPs on the utility of the following items in a patient with IBP expressed on a 10-point Likert scale

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family history</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>17</td>
<td>37</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>HLA-B27</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>29</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>Inflammatory markers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>18</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td>Spinal X-ray</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>9</td>
<td>20</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>23</td>
<td>16</td>
<td>32</td>
</tr>
</tbody>
</table>

Scale 0 = not important at all, 10 = extremely important. Values expressed as percentage of the total 186 GPs choosing each response.
in 34.2% and in 62.6% if more than one referral parameter was present.

Early diagnosis of AS may be difficult due to a variety of reasons including mild to moderate symptoms at presentation, lack of definitive diagnostic tests, slow progression of disease, low prevalence and limitation of traditional diagnostic criteria. In a comparison of patients with SpA seen in specialty clinics with those identified in a community-wide epidemiological study, Boyer et al. [17] reported that 72% of the community cases of SpA had not been diagnosed previously as SpA and 94% of the cases in women were missed. This happened despite the fact that the majority of patients had sought medical help for their back pain and the diagnosis of SpA was not considered by the family physician. Our survey indicated an apparent lack of awareness among GPs to identify unequivocal symptoms of IBP.

In our survey, GPs’ awareness of the associated features of SpA was not complete. Although it may be argued that looking for additional SpA features may be outside the remit of a GP, awareness of the disease spectrum would definitely help identify patients who may not have typical IBP symptoms and will also increase the index of clinical suspicion to consider a diagnosis of SpA.

The inconsistencies in the use of diagnostic tests and management of AS among GPs stress the need to develop a common algorithm for early identification and referral of patients with AS. It also makes a strong case for improving musculoskeletal education in primary care. This was identified as one of the unmet needs identified by the GPs in the survey. The unmet needs identified by the GPs may reflect the specific situation of the UK healthcare system and therefore may be less applicable to other countries.

Referral recommendations similar to those as suggested by Brandt et al. [16] will need to be developed for use by GPs in the UK.

Conclusion

In a survey of 300 GPs in Norfolk, we identified inconsistencies in their perceptions and approach to the diagnosis and management of AS. Education in primary care and the wider use of diagnostic algorithms may improve the early detection and hence outcome of AS in the UK.

Acknowledgements

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