European recommendations for musculoskeletal pain

The article by Woolf et al1 yields plenty of fascinating information. I was particularly interested to see the national differences in recommendations for acupuncture or herbal medicine (incidentally, herbal treatments are pharmacological by nature despite the affirmation in the contrary in fig 1 of the article).

Throughout Europe, few doctors issue such recommendations, despite the affirmation of musculoskeletal pain in Europe: its impact and a comparison of population and medical perceptions of treatment in eight European countries. Ann Rheum Dis 2004;63:342–7.

Author’s reply

Professor Ernst’s letter highlights some interesting findings from our European survey about national variations in primary care physicians’ recommendations for alternative and herbal treatments in the management of musculoskeletal pain.1 Our survey of 5803 randomly selected people with musculoskeletal pain also highlighted how infrequently people with musculoskeletal pain use such remedies. For example, between 1 and 3% of people with musculoskeletal pain had used acupuncture. Yet 6–4% had tried chiropractic, and up to 10% were treating themselves with a non-prescription preparation other than an analgesic or non-steroidal anti-inflammatory drug.

What is also interesting is that, although uptake in all countries was very low, use of acupuncture by people with musculoskeletal pain was greatest in the UK, Ireland, and Sweden, countries where, as Dr Ernst points out, very few physicians recommend acupuncture. The results of this survey suggest that the choices which people with musculoskeletal pain make about their treatment are influenced by many factors, one of which may be physician recommendation. A greater understanding of the social, cultural, and environmental context in which people make these choices is necessary to begin to establish explanations for the national variations in physician behaviour and the discrepancies between physician recommendation and the ways in which people actually manage their pain.

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References


Table 1

Characteristics of patients with rheumatoid arthritis with short metacarpal(s)

<table>
<thead>
<tr>
<th>No</th>
<th>Sex</th>
<th>Age</th>
<th>Erosion</th>
<th>Joint space narrowing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Left</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>F</td>
<td>69</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>49</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>48</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>42</td>
<td>0</td>
<td>0</td>
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<tr>
<td>5</td>
<td>F</td>
<td>64</td>
<td>3</td>
<td>5</td>
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<tr>
<td>6</td>
<td>F</td>
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<td>2</td>
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<td>0</td>
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<td>M</td>
<td>56</td>
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<td>3</td>
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<td>0</td>
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<td>F</td>
<td>41</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>F</td>
<td>67</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>44</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

1 2, 3, 4, 5: 1st, 2nd, 3rd, 4th, and 5th metacarpophalangeal joint, respectively. Figures in bold indicate short metacarpal.

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Metacarpophalangeal joint of short metacarpal bone in rheumatoid arthritis

We read with interest the short case study by Huntley and Howie concerning the potential role of mechanical factors in joint destruction of the rheumatoid hand.1 Their report indicated severe bilateral destruction of all metacarpophalangeal (MCP) joints except those in the congenitally short 4th metacarpal bone.

In a search of roughly 3500 posteroanterior views of hand radiographs by Picture Archiving and Communication System from May 2003 to June 2004, we identified 12 patients with rheumatoid arthritis (RA) among the 27 patients who had unilateral or bilateral short metacarpal(s). An experienced bone and joint radiologist (KBJ), who was unaware of our review, scored the erosion and joint space narrowing of their MCP joints according to the Sharp method modified by van der Heijde.2 We found that short metacarpals were confined to the 4th and/or 5th fingers and that MCP joints in short metacarpals seemed to show less destruction than the MCP joints in normal metacarpals (table 1). This is in accord with the report by Huntley and Howie.

We further wondered if the MCP joints of the 4th and 5th metacarpals had less destruction than those of the 2nd and 3rd metacarpals in cases of RA. We evaluated hand radiographs in 50 consecutive patients with erosive RA whose metacarpals were of normal length, using the same method and...
radiologist as in the previous review. The modified Sharp scores for erosion of left and right hands were, respectively 0.7 (1.4), 1.1 (1.7), 1.6 (2.0), 1.6 (2.2) (III); 0.8 (1.6), 1.5 (2.0) (III); 0.7 (1.7), 1.2 (2.0) (IV); and 0.8 (1.6), 1.0 (1.8) (V). The scores for joint space narrowing were 0.8 (1.3), 1.0 (1.5) (I); 1.0 (1.4), 1.4 (1.6) (II); 0.6 (1.2), 1.2 (1.5) (III); 0.4 (1.0), 0.8 (1.3) (IV); and 0.6 (1.2), 0.8 (1.3) (V). The paired t test was applied to compare means between the sum of the scores of the 2nd and 3rd MCP joints and of the 4th and 5th MCP joints for bony erosion and joint space narrowing. We found that the 4th and 5th MCP joints in RA showed less joint destruction than the 2nd and 3rd MCP joints (table 2). We found more evidence for this conclusion by Belt et al.29,30 and Mulherin et al.31,32 in which we noticed that 4th and 5th MCP joints were less involved in destructive changes from RA than the 2nd and 3rd MCP joints, although those authors dealt with other subjects in their articles. From these reports, one concludes that the protective role of a short metacarpal bone to MCP joints in a rheumatoid hand might be due in part to the anatomical position because short metacarpals were only found in the 4th and 5th fingers in our large scale search and because 4th and 5th MCP joints were less affected by bony destruction caused by RA. An analysis of rare data from previously published, large scale studies dealing with radiological scoring of hand radiographs by various methods would clarify this matter.

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References

*Sum of the scores for the 2nd and 3rd MCP joints; †sum of the scores for the 4th and 5th MCP joints.

Table 2 Radiological changes in patients with erosive rheumatoid arthritis without short metacarpals

<table>
<thead>
<tr>
<th>Hand</th>
<th>x Ray change</th>
<th>2nd-3rd*</th>
<th>4th-5th†</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left hand</td>
<td>Bony erosion</td>
<td>120.0 (2.4)</td>
<td>75.0 (1.5)</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>Joint space narrowing</td>
<td>81.0 (1.6)</td>
<td>50.0 (1.0)</td>
<td>0.038</td>
</tr>
<tr>
<td>Right hand</td>
<td>Bony erosion</td>
<td>154.0 (3.1)</td>
<td>109.0 (2.2)</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>Joint space narrowing</td>
<td>128.0 (2.6)</td>
<td>77.0 (1.5)</td>
<td>0.0008</td>
</tr>
</tbody>
</table>

Authors’ reply

We thank Jun et al for examining the hypothesis advanced in our case report. They suggest that the metacarpophalangeal (MCP) joint of the fourth metacarpal is intrinsically less susceptible to the changes of rheumatoid arthritis (RA) (as evidenced by radiography)—and that this in part accounts for the observed sparing of MCP joints of congenitally short metacarpals.

Jun et al identified 12 patients with RA and short MCP joints (table I, above). However, only one of these (patient 11) had a configuration that would result in radioulnar splinting of the MCP joint (the other patients had either short fourth and fifth metacarpals, or only a short fifth metacarpal). On the basis of the data in their table 2, Jun et al suggest that the 4th and 5th MCP joints are generally spared, relative to the 2nd and 3rd MCP joints. Confusingly, there also appear to be marked differences in bony erosion and joint space narrowing when the left and right hands are compared. Explanations for relative sparing of particular MCP joints have been proposed by other authors, including: (a) a role for different intra-articular pressures,33 and (b) an effect of wearing gold rings.34

Our report was couched in terms of speculation, and was necessarily constrained by space. Two further features strengthen the argument about the importance of mechanical factors in the progression of joint deterioration:

- In our case, of all the proximal interphalangeal (PIP) joints, it is those of the ring fingers that are worst affected (both clinically and radiologically; see fig 1 in ref 1). Given stabilising splinting of the fourth MCP joint, the destruction at the PIP joint of the ring finger can also be accounted for in mechanical terms—it is likely to be subjected to adverse splintage by the ulnar drift of the long and small digits.

- Our patient never wore gold on the right hand, and only for 1 year on the left hand, this being 8 years before he developed RA. In this case, therefore, the hypothesis about locally worn gold is effectively precluded.

We agree that the explanation of Jun et al may have a minor contributory role, but the degree of sparing is so marked that our mechanical explanation—MCP joint splintage by substantially longer neighbouring metacarpals—probably defines the substantive mechanism.

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