pathology there is little that can be offered to the patient surgically. In the author’s practice of rheumatoid hand surgery, in which surgical effort was initially directed at joint disease, there has been a gradual change of emphasis to the treatment of soft tissue rheumatism in which the tendon has become the focal point. The rapid easy rehabilitation following tendon surgery makes this more attractive and, where resources are limited to dealing with a fraction of the potential demand for surgery, it seems logical to concentrate on this aspect.

**DR. B. M. ANSELL (Taplow)** Have you had any tendon ruptures after extensive clearance or fibrosis requiring re-exploration?

**MR. COLVILLE** I think that synovectomy produces an environment in which a tendon can pick up a fresh blood supply. I have not seen tendon rupture after synovectomy. Regarding adhesions, this is not a troublesome feature of this type of surgery and certainly causes much less dysfunction than the trapped tendon.

**Fluorine-18 Isotope Scans of the Sacroiliac Joints.** By J. WEBB, L. T. COLLINS, P. B. SOUTHWELL, and J. B. DICKSMITH (Sutton Rheumatism Research Laboratory and Departments of Nuclear Medicine and Radiology, The Royal North Shore Hospital of Sydney, Australia).

Using a linear collimator and 2 to 3 Mīc Fluorine-18, postero-anterior scans of the lumbar spine and pelvis were performed in 22 cases of ankylosing spondylitis and other diseases (Table), in which a radiological diagnosis of sacroilitis is frequently difficult to establish.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No. of cases</th>
<th>Clinically active sacroiliitis</th>
<th>Positive 18F scan</th>
<th>Positive routine x-ray</th>
<th>Positive x-ray on review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylosing spondylitis</td>
<td>12</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Reiter’s disease</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Psoriatic arthritis</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Rheumatoid arthritis</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Septic arthritis</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>10</td>
<td>15</td>
<td>9</td>
<td>20</td>
</tr>
</tbody>
</table>

Positive scans were obtained in fifteen cases, including nine of ten with clinically active sacroilitis, and another five cases in which the diagnosis made would usually be associated with sacroilitis, though clinical findings were absent. In the seven whose sacroilitis had become clinically inactive, the scans were positive in only one case. Clinically active lumbar spondylitis in three cases was also evident on scanning.

Sacroilac radiographs were reported abnormal in only nine cases. Careful reassessment showed early changes to be present in another eleven, which would easily have been overlooked in many.

Besides their value in helping to substantiate the diagnosis of sacroilitis, especially early in the disease when x rays are often equivocal, Fluorine-18 scans might be used to follow the progress of disease and its response to therapy.

**Discussion**

**PROF. V. WRIGHT (Leeds)** How do you define clinically active sacroilitis and how long does the test take?

**DR. WEBB** Scanning starts 20 minutes after the injection and is completed approximately 20 minutes later.

We accepted the presence of a positive clinical test for sacroiliac inflammation, or a good history of sacroiliac pain.

**PROF. E. G. L. BYWATERS (Taplow)** How do you assess positive scans and with what background are they compared?

**DR. WEBB** We have a number of normal subjects. We are looking for an increased or unequal uptake between the sacroilical joints and the lumbar spine. The scanner was centred initially on the mid-point of the lumbar spine with constant setting of the scanner parameters and the background suppression.

**PROF. E. G. L. BYWATERS (Taplow)** If you had lumbar spine disease would this not affect it?

**DR. WEBB** We had three patients with lumbar spine disease and this was evident, although sacroiliac uptake exceeded that of the lumbar spine. Normal and abnormal scans were randomized and read twice with matching results.

**DR. D. HASLOCK (Leeds)** I have recently read 2,000 sacroilical x rays and am impressed by the number of small abnormalities present in apparently normal subjects. By applying your fine criteria to the normal population, how many would you consider had sacroilitis?

**DR. WEBB** Fifty randomized x rays, including a selection from this patient group, were read by the clinicians and the radiologist. There was a 95 per cent correlation in assessment of abnormality.

**Effect of Hydrocortisone on Regeneration of Synovium and on Articular Surfaces after Synovectomy in Rabbits.** By G. BENTLEY (Nuffield Orthopaedic Centre, Oxford)

Many clinical studies have indicated the beneficial effect of synovectomy in rheumatoid arthritis performed at an early stage before articular cartilage destruction is advanced, particularly in the knee and the metacarpophalangeal joints of the fingers (Marmor, 1966; Mason, 1969; Preston, 1969; Paradies, 1969). These studies have suggested that articular cartilage damage is delayed or even prevented by synovectomy. However, recent reports by Bränemark, Ekholm, Goldie, and Lundskog (1969), Geens, Clayton, Leidhold, Smyth, and Bartholomew (1969), and Bartholomew (1970) have demonstrated that after synovectomy for rheumatoid arthritis the regenerated synovium showed histological appearances suggesting a recurrence of the rheumatoid process and increased amounts of lysosomal enzymes, as in the original diseased membrane.

It would be desirable to prevent recurrence of the disease in the regenerated synovial membrane after synovectomy without prejudicing the joint cartilage.

An experiment was carried out in which synovectomy was performed on seventy mature male New Zealand white rabbits. In half the animals 25 mg. hydrocortisone acetate was injected weekly intramuscularly to study the effect on the regeneration of synovium and on articular cartilage. The animals were killed at intervals from 4 to 110 days. Synovial regeneration was considered complete when there was re-formation of a surface layer one to three cells thick, abundant capillaries subjacent to the