GREATER TROCHANTERIC PAIN SYNDROME

A REPORT OF 15 CASES

M. R. K. KARPINSKI, H. PIGGOTT

From The Royal Orthopaedic Hospital, Birmingham

Fifteen patients with identical symptoms of pain and tenderness at the tip of the greater trochanter are reviewed. Diagnosis by the referring doctor was usually osteoarthritis of the hip or sciatica, but localised tenderness and pain on resisted abduction were the only clinical signs. Radiographs were usually normal. Most cases were relieved by one or more local steroid injections.

This disorder has much in common with tennis elbow, golfer's elbow, coccydynia and policeman's heel. We suggest that all these conditions may be traction syndromes.

Standard orthopaedic textbooks often briefly describe trochanteric or subgluteal bursitis (Apley and Solomon 1982; Duthie and Bentley 1983). Stegemann (1923) described juxtatrochanteric pain and attributed it to calcareous peritrochanteric bursitis, while Leonard (1958) described calcareous tendonitis, non-calcareous tendonitis and bursitis as types of painful trochanteric abnormalities.

Although pain at the greater trochanter is a not uncommon complaint in our clinics, we cannot recall any patient with objective evidence of bursitis (that is, with swelling, heat, crepitus or fluctuation), and only very few with soft tissue calcification. We therefore studied, over a selected period, all patients with trochanteric pain as a presenting symptom.

PATIENTS AND METHODS

At a small general orthopaedic clinic approximately 3000 new patients were seen in the six-year period reviewed; 15 of these patients had been referred because of trochanteric pain. There were 11 women and four men; their ages ranged from 12 to 59 years with an average of 43 years; their details are shown in Table I. There were no special features in relation to occupation or previous medical history.

Clinical features. In all cases the patient indicated accurately the top of the greater trochanter as the site of the pain, although in six cases it had spread to the groin,

sacro-iliac region, or the outer side of the thigh. The patients found the pain a nuisance during activities, especially walking, and it occasionally disturbed sleep.

There was always tenderness at the tip of the greater trochanter, usually posteriorly. The change in position of the tender spot when the femur was rotated indicated that it was indeed the trochanter or its musculotendinous attachments which was involved. The pain was reproduced by resisted abduction. All patients had full painless passive hip movement, and 12 had a full range of back movements without pain. In three patients, however, pain was reproduced by bending the spine forwards or to the contralateral side; these three are included in this report because they were otherwise completely typical with no other features to suggest a spinal abnormality, and they responded to treatment directed to the greater trochanter. It seems likely that spinal movements reproduced the pain by stretching the insertion of gluteus minimus and medius into the trochanter.

Radiographs of the hips were normal in 12 patients, but three showed minimal soft tissue calcification above the tip of the greater trochanter.

Treatment. Details are shown in Table I. Most patients were greatly improved after a local steroid injection to the soft tissues at the tip of the greater trochanter, although in one case this had to be repeated once. Three patients had little or no relief from injection, but two responded to ultrasound and massage. Improvement, once obtained, was usually permanent and there were no relapses. We suspect that simply reassuring patients that there was no arthritis of the hip or disease of the lumbar spine may have been an important factor in achieving symptomatic relief. None of the patients in this report needed surgical removal of calcified tissue, but since the period of this study we have met one patient in whom calcification of the supratrochanteric soft tissue was extensive; she failed to respond to steroid injections or ultrasonic therapy, and awaits "surgical decalcification".

M. R. K. Karpinski, FRCS, FRCS Ed, Senior Orthopaedic Registrar
Harlow Wood Orthopaedic Hospital, Nr Mansfield, Notts NG18 4TH,
England.

H. Piggott, FRCS, Consultant Orthopaedic Surgeon
Royal Orthopaedic Hospital, Woodlands Hospital, Northfield,
Birmingham B31 2AP, England.

Requests for reprints should be sent to Mr H. Piggott, 7 Chad Road,
Edgbaston, Birmingham B15 3EN, England.

© 1985 British Editorial Society of Bone and Joint Surgery
0301-620X/85/5134 \$2.00

Table I. Summary of cases

Case	Age (years)	Sex	Side	Duration and onset of pain	Treatment	Radiograph	Follow-up (months)
1	50	F	Left	5 years, spontaneous	S + B	Normal	79
2	40	F	Left	4 months, spontaneous	S	Slight cortical irregularity at greater trochanter	72
3	53	F	Left	12 weeks, spontaneous	S + X	Normal	32
4	51	M	Left	6 months, after a fall	S*	Minimal calcification proximal to greater trochanter	38
5	57	F	Left	8 weeks, after RTA	S, U, †	Slight cortical irregularity at greater trochanter	73
6	47	M	Right	15 years (recurrent)	S	Normal	45
7	48	F	Right	18 months, spontaneous	None	Normal	39
8	19	F	Left	4 months, after a run	S, U	Normal	78
9	25	F	Right	5 months, spontaneous	S + B	Normal	12
10	52	F	Right	1 month, spontaneous	S + B	Normal	12
11	35	F	Right	9 months, spontaneous	S + B	Proximal irregularity at greater trochanter	12
12	59	F	Left	12 months, spontaneous	None	Normal	12
13	52	F	Right	18 months, spontaneous	U	Soft tissue calcification proximal to greater trochanter	12
14	46	M	Right	6 months, spontaneous	S + B	Normal	15
15	12	M	Right	4 weeks, spontaneous	S + B	Normal	9

S. Steroid; usually prednisolone pivalate 50 mg/ml or triamcinolone acetonide 40 mg/ml
 B. 0.25% bupivacaine
 X. 1% Xylocaine
 U. Ultrasound
 RTA. Road traffic accident
 *. Steroid injection repeated at 3 months
 †. Symptoms resolved following litigation proceedings

DISCUSSION

All these patients had virtually identical symptoms and physical signs, and can reasonably be considered to have had the same condition. In the absence of any obvious cause, we believe that the best name for this condition is the greater trochanteric pain syndrome, as suggested by Leonard (1958). Study of previous reports (Sandström 1938; Schein and Lehmann 1941) suggests that many patients with trochanteric or "subgluteal bursitis" have probably suffered from this syndrome and have had no real objective evidence of bursitis.

The cause of the syndrome is speculative, but it shows obvious and remarkable similarities to tennis elbow, golfer's elbow, policeman's heel and coccydynia. In all these conditions there is prolonged pain at a point where strong muscles are attached to bone and this pain is related either to muscle activity or to local pressure. Local tenderness and, in a high proportion of cases, relief after a local steroid injection are other shared features. In the absence of demonstrable pathology in most cases, it is tempting to suggest that these pain patterns result simply from local overuse, possibly with repetitive microtrauma. The occasional appearance of soft tissue calcification seen in tennis elbow and the greater tro-

chanteric pain syndrome may be akin to the similar calcification seen in supraspinatus tendonitis; this latter, however, is often attributed to poor vascularity, so the relationship is somewhat speculative.

In the greater trochanteric pain syndrome one of the most important clinical aspects has been its frequent misdiagnosis as osteoarthritis of the hip or as pain referred from the lumbar spine. Accurate diagnosis and reassurance have possibly been as important in relief of symptoms as the local physical treatment by injection or ultrasonic therapy.

REFERENCES

- Apley AG, Solomon L. *Apley's system of orthopaedics and fractures*. 6th ed. London etc: Butterworth Scientific, 1982:479.
- Duthie RB, Bentley G. Trochanteric bursitis (subgluteal bursa). In: *Mercer's orthopaedic surgery*. 8th ed. London: Edward Arnold, 1983:710.
- Leonard MH. Trochanteric syndrome: calcareous and noncalcareous tendonitis and bursitis about the trochanter major. *JAMA* 1958; **168**:175-7.
- Sandström C. Peritendinitis calcarea. Common disease of middle life: its diagnosis, pathology and treatment. *Am J Roentgenol* 1938; **40**:1-21.
- Schein AJ, Lehmann O. Acute trochanteric bursitis with calcification. *Surgery* 1941; **9**:771-9.
- Stegemann H. Die chirurgische Bedeutung paraartikulärer Kalkablagerungen. *Arch Klin Chir* 1923; **125**:718-38.