

## CASE REPORT

## RUPTURED SEMIMEMBRANOSUS BURSA — AN UNUSUAL COMPLICATION FOLLOWING SPORTS INJURY OF THE KNEE

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## ABSTRACT

An exceptional complication of a slight sports injury of the knee with rupture of the semimembranosus bursa in a 29-year-old male football player is reported.

The diagnosis was verified by immediate arthrography, consequently the possibility of thrombophlebitis could be ruled out.

Anticoagulation is dangerous and contraindicated in rupture of the semimembranosus bursa due to the risk of developing compartment syndrome. Simple bed-rest for a week gave complete relief of pain.

Key words: Knee joint, complications, cysts. Knee joint, arthrography. Sports injuries.

## INTRODUCTION

Rupture of the semimembranosus bursa is a rare complication of many knee diseases: rheumatoid arthritis, disseminated lupus erythematosus, Reiter's syndrome, gout, osteoarthritis (Solomon and Berman, 1972) and septic arthritis (Hall et al, 1982). It has also been observed as a complication of arthroscopy (Bunker and Thomas, 1983). This report describes a rupture of the semimembranosus bursa, following simple knee trauma.

## CASE REPORT

A 29-year-old male sustained an indirect valgus trauma of his right knee on 6 May, 1985 during a football match. Clinical and radiological examination indicated traumatic synovitis in the right knee. The symptoms slowly subsided during the following month in which period he was able to continue his work as a carpenter.

On the 5th June while getting out of his car the patient sensed a sudden sharp pain in his right knee and calf, swiftly followed by local swelling and tenderness. He was admitted immediately into our department where he presented with a tender swelling of his right calf, mimicking acute thrombophlebitis. A concomitant tense effusion of the right knee joint was evacuated by arthrocentesis producing 95 ml of haemorrhagic synovial fluid. Arthrography showed extravasation of contrast medium into the right calf (Figure 1).

The patient was treated with bed rest until symptoms were relieved after a week. Arthroscopy 6 weeks later showed no lesions or pathological changes of the synovial membrane in any part of the knee joint. The patient was symptom free and clinical examination was found to be normal.

## DISCUSSION

Rupture of the semimembranosus bursa is often misdiagnosed as thrombophlebitis and the correct diagnosis may escape detection for weeks or months while ineffectual and potentially harmful anticoagulation is applied (Eyanson et al, 1979). Chronic calf oedema, compartment syndrome and muscle contractures can be the complications of the anticoagulation (Eyanson et al, 1979; Solomon and Berman,



Fig. 1: Arthrography showing acute rupture of a semimembranosus bursa. There is a large extravasation of the contrast medium into the swollen calf.

1972). The symptoms of rupture of the semimembranosus bursa so closely mimic those of thrombophlebitis that the condition has been called "pseudothrombophlebitis".

Arthrography is available in most hospitals and it is diagnostic in ruptured semimembranosus bursa (Meire et al, 1974). The investigation has to be carried out as early as possible after the onset of symptoms, because leakage from the cyst may be stopped by inflammatory reactions (Gompels and Darlington, 1982).

Intact, dissecting and some of the ruptured cysts may be diagnosed by ultrasonography which is an inexpensive and noninvasive examination (Gompels and Darlington, 1982).

Arthroscintigraphy with technetium albumen is also an available method in obtaining the diagnosis of ruptured semimembranosus bursa. By these methods there is no risk of contrast medium hypersensitivity and overdistension of the knee capsule which may complicate arthrography (Watkins et al, 1975).

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A haemarthrosis of 95 ml will create an intra-articular pressure of 100 mm Hg which is far below the limit of synovial rupture (Hejgaard, 1984). The haemarthron in our patient, was not really caused by rupture of the semimembranosus bursa but the result of the rupture, not its cause. The bleeding emphasises the importance of not beginning therapy with anticoagulants before the correct diagnosis is established.

Acute arthroscopy should not be carried out because liquid will leak into the calf and aggravate the symptoms (Bunker and Thomas, 1983).

After our patient had recovered, arthroscopy was performed and the knee joint was found to be normal. It must be assumed that a traumatic synovitis had been the cause of the cyst rupture.

Most cases of acute rupture of the semimembranosus bursa settle with conservative treatment. Only if bed-rest and anti-inflammatory drugs fail to relieve the tension in the calf need one resort to surgical decompression. The defect in the capsule should always be repaired either by direct

suture or by suturing the origin of the medial head of the gastrocnemius muscle into the capsular tear (Solomon and Berman, 1972).

### References

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### BOOK REVIEW

**Title:** THE RHEUMATOLOGICAL DISEASE PROCESS. FOCUS ON PIROXICAM  
**Editor:** R. G. Richardson  
**Publishers:** Royal Society of Medicine 1985  
 104 pages                      Soft back                      ISBN 0-19-922005-0

This is one of the International Congress and Symposium series and forms the proceedings of an international symposium held in London on the 29th April, 1983. Although published by an august body it is stated that the scientific and literary content of the publication are the responsibilities of the sponsors of the symposium. No information is provided as to whether the contributors were invited, or whether the articles were submitted competitively. One suspects the former situation when a symposium is being sponsored by a pharmaceutical company, with careful selection that the work done by the contributors favours the product under discussion. There is an international flavour to the contributors with seventeen articles concerning Piroxicam in different disease states and the pharmacokinetics of the drug. The opening article is the only non-promotional one and discusses therapeutic trials. The book finishes with a panel discussion.

Not surprisingly, considering the selection of the articles, all the comparative studies favour the use of Piroxicam.

Two of the articles may be of relevance to readers of this journal. Lereim and Gabor from Oslo discuss the use of the drug in acute musculoskeletal disorders. 74 patients were randomised into a double blind study against placebo. As would be expected with any non-steroidal anti-inflammatory drug, Piroxicam was found to be superior to placebo.

V. A. Edwards from Watford in England compared the drug with Indomethacin in patients suffering acute soft tissue sports injuries. Both drugs were found to be equally effective and few side effects were noted. 11 different general practitioners studied 105 patients. No mention is made of the fact that the drug under consideration is three times the cost of Indomethacin. It must be remembered that some of the conditions were self-limiting and every non-steroidal anti-inflammatory drug has the risk of serious gastro-intestinal side effects.

This book would be of value for anyone with a particular interest in Piroxicam or with an interest in clinical trials of anti-inflammatory drugs, but has nothing to recommend it to the average person interested in sports medicine.

**W. N. Dodds**