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CASE REPORT

ISCHIAL STRESS FRACTURE

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ABSTRACT

A single report of a very unusual stress fracture in the ischium of a fourteen year old athlete. The mechanism and the more usual lesion of ischial apophysiolyis is discussed.

Key Words: Stress fracture, Ischium, Juvenile.

was there a second fracture through the obturator ring. His activity was further reduced until the lesion was soundly healed.

DISCUSSION

The partial attachment of some muscle groups to secondary centres of ossification gives rise to a slightly different pattern of stress lesions in the growing child compared with the adult (Devas, 1975). With exceptional muscular contraction avulsion of such apophyses is possible, recognised as a distinct, painful event frequently causing a sudden halt in activity.

The origin of the hamstrings is partly from the secondary ossification centre on the ischial tuberosity and ischial apophysiolyis and avulsion is well recognised between puberty and the age of 25; this time span representing the appearance of the centre and its eventual fusion with the ischial body between 18 and 25 years of age (Milch, 1953; Hamada et al, 1963; Abbate, 1945).

A stress fracture through the ischium seems to be unusual at any age and only one case is described in recent literature (Devas, 1975). This was of a 16 year old female hurdler in whose radiographs the ischial apophysis appears to have closed.

The unusual nature of this lesion may be partly because the origin of the hamstrings from the apophysis in the adolescent conveys an increased lever action compared with that in the adult (Hamada et al, 1963), and partly because in adults hamstring tears at the musculo-tendinous junction in mid-thigh posteriorly protect the ischium from such overuse injury.

Stress fractures are common in athletes and young military personnel. The wide range of possible sites and the varying frequency depending upon the activity have been well described in several large series (Devas, 1975; Meurman et al, 1980; Orava et al, 1978). The increasing awareness of such fractures and their relationship to overuse, helped by the sensitivity of bone scintigraphy compared with conventional radiology in the detection of early signs, has led to more frequent diagnosis (Mills et al, 1980; Norfray et al, 1980; Roub et al, 1979). We report an unusual stress fracture in the ischium.

CASE HISTORY

The patient, a well built 65 kg, 175 cm, 14 year 5 month old school boy was a County representative in his age group at rugby football and sprinting. He presented with a two month history of pain deep in the right buttock which had come on gradually with repeated sprint training on heavy ground and which had persisted despite reduced activity. He had continued playing rugby but had pain and felt off balance when attempting to run quickly. There had been no bruising in the buttock or posterior thigh. There was no past history of overuse injury.

Examination revealed tenderness over the ischium but no bruising or palpable lump. There was no hamstring muscle tenderness.

The radiographs (Figs. 1 and 2) showed an undisplaced fracture through the right ischium with adjacent callus formation. The ischial apophyses were unfused. The right side had not been avulsed, neither

The fracture line and the reparative callus are arrowed.

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