Spontaneous healing of an avulsed ischial tuberosity in a young football player
A case report

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There is a paucity of orthopaedic literature describing avulsion of the ischial tuberosity, but its spontaneous healing does not seem to have been reported to-date. This article describes the case of a young football player who suffered an avulsion fracture of the ischial tuberosity while kicking vigorously next to the ball during a football match. The diagnosis was not made at the time of trauma, and the fracture was found five years later to have healed spontaneously. A review of the literature is provided.

Keywords: ischial tuberosity; avulsion; healing.

INTRODUCTION

Traumatic detachment of the ischial tuberosity is a rarely reported injury. The diagnosis is often delayed, as the injury is considered trivial by the patient, parents and even by the treating physician (7), and radiographs are therefore not always made. It results in the presence of an osseous fragment inferior and lateral to the ischial tuberosity (10). This injury usually occurs in children and adolescents, at an age when the tuberosity is not yet fused, usually after a strong contraction of the hamstrings or due to chronic repetitive traction without an acute episode. The treatment of avulsion of the ischial tuberosity is not well defined. Most cases can be treated satisfactorily with rest, analgesics and cessation of activity until the symptoms subside (7). Early surgical reattachment is rarely needed, but some authors suggest this option for athletically active patients (4). Surgical removal of the bony fragment is mandatory when it compresses the ischiatic nerve (6) or when a painful non-union has developed (3) but, on the other hand, this treatment can promote the formation of an osteoma requiring clinical and radiological surveillance (9). We report the case of a patient who presented a traumatic avulsion of the ischial tuberosity, which was found five years later to have healed spontaneously.

CASE REPORT

A young boy reported a violent trauma during a football match in March 1999, when he was
A 14-year-old boy presented with sudden pain in the right buttock while kicking vigorously next to the ball ("tir retourné" according to French authors) (6). Two months later, he underwent a sonography which did not report any muscular lesion, or haematoma.

The first time he consulted us was in December 2000, when he was 15 years old. Because he had persisting pain when sitting—a typical avulsion fracture complaint—a radiograph (fig 1) was taken, 18 months after the sonography, as well as an MRI of the pelvis (fig 2).

The radiograph showed detachment of the ischial tuberosity and the MRI documented the presence of a characteristic crescent-shaped area (2), ruling out the possibility of ischial apophysitis and avascular necrosis (i.e. Kremser’s disease).

We decided on non-surgical intervention, considering that the patient was young and that it is uncertain whether an athlete with this injury diagnosed after a long delay can recover fully after operation (8).

Considering the delay in diagnosis, we also did not suggest conservative treatment (i.e. bed rest with the thigh in extension and with the knee flexed), as it would most likely have been inefficient and useless.

We preferred to periodically check the evolution with a radiograph every two months, and by advising the patient to avoid any sporting activities.

After three and half years, the radiograph (fig 3) showed union of the avulsion.

The patient did not complain any more, except on sitting and during prolonged walking.

**DISCUSSION**

Review of the literature does not provide other cases of ischial tuberosity detachment which healed spontaneously, and therefore we believe that this case is unique in that the avulsion has healed...
with no need for bed rest or surgery. Furthermore bed rest with the thigh in extension and with the knee flexed could give rise to potential complications, i.e. non-union and the onset of the “hamstring syndrome”, a painful condition with shortening and fibrosis in the hamstring origin near the ischial tuberosity (5).

It is also demonstrated that muscle weakness, in this case due to a lack of active hamstring training, disturbs the recovery from disuse bone atrophy (1) and therefore atrophy of the ischial tuberosity may result.

The pain reported by the patient when sitting is certainly due to the hypertrophic ischium crushing the gluteal muscles against the seat. In our opinion, this is a complication that can be overcome, because some time is necessary in order to permit remodelling of the ischial tuberosity, which can be promoted by physical activities. The pain reported during prolonged walking probably results from repetitive pull of tight hamstrings at their insertion (2). In our opinion, even this complaint could be relieved by stretching the hamstrings via physical therapy, i.e. with muscle rehabilitation (submaximal hamstrings isometric contractions, with single-leg stance balancing, swimming and using a bicycle (5). This case could suggest that when surgical treatment is not possible for some reason, this fracture can be treated with no need for surgery or for a cast.

REFERENCES