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CASE REPORT

Traumatic avulsion fracture of the ischial tuberosity in an elderly patient

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We present a case of avulsion of a large fragment of the ischial tuberosity in an elderly lady, caused by an extreme abduction of the hip. To our knowledge such an injury has not yet been described in the elderly. The decision to operate was based on the reported experience with this injury in young individuals. We assumed that the same indications applied, while also taking into account the known risk factors of surgery in the elderly.

Keywords : ischial tuberosity ; avulsion fracture ; elderly.

INTRODUCTION

Avulsion fractures of the ischial tuberosity are uncommon injuries, seen almost exclusively in adolescent athletes mainly as a result of a sudden, forceful or unbalanced contraction of the attached musculotendinous unit : m. adductor magnus or hamstrings (*9,11*), during sporting events such as athletics, rugby, soccer, ice hockey, gymnastics and break dancing (*4*). We report an ischial tuberosity avulsion in an elderly lady of 85 years.

CASE REPORT

An 85-year-old lady was admitted to our emergency department, after a fall in her bathroom. During the fall her legs were spread into a wide split and she experienced an intense pain in the right buttock. She was unable to move her leg or stand up. She did not notice a crack. Her medical history was not relevant to the injury : bilateral pulmonary tuberculosis at age 25, chronic back pain, meniscus disease left knee, scaphoid fracture, arterial hypertension, Tietze Syndrome, cardiac valve insufficiency (mitral valve function 2/4) with ventricular fibrillation and most recently breast carcinoma followed by mastectomy and axillary debridement.

Clinically the patient was alert. The leg had a normal position, without shortening or excessive external rotation. The hip and groin region were not swollen. There was no haematoma about the hip. The groin area was tender. She was unable to flex her hip. There were no clinical signs of neurological damage.

Radiographs of the pelvis (Fig. 1) showed a large avulsion of the ischial tuberosity on the right side with a separation exceeding 2 cm. A CT-scan

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Fig. 1. — AP radiograph on admission

Fig. 2. — AP radiograph after open reduction and plate fixation.

excluded any acetabular involvement. It was decided to surgically reduce and fix the avulsed fragment ; this was done with a reconstruction plate, 3.5 mm locking screws and an additional 60 mm cancellous screw with a washer.

Post-reduction films showed anatomical reduction (Fig. 2). The patient was moved to a chair on day three and kept on partial weight bearing for six weeks. No further problems occurred.

Six months postoperatively the patient is ambulating well, has a painless range of motion and has no problems sitting.

DISCUSSION

Avulsion fractures of the ischium are almost exclusively seen in adolescent sportsmen (*4,7*), when the ischial tuberosity has not yet completely merged with the os pubis (*8*). The case described here concerns an elderly lady. She suffered an extreme elongation trauma of the adductor magnus muscle and the hamstrings.

Standard radiographs are usually sufficient to make the diagnosis, but advanced imaging is needed to fully delineate the extent of injury (*8*).

In adolescents ischial avulsion may present as an acute or a chronic lesion. Chronic injuries are mostly related to heavy sports and repetitive micro trauma. Acute injuries are mostly seen with extreme trauma. When there is no significant trauma in the history, one should consider a pathological fracture until proven otherwise (*2,8*).

Conservative treatment is the preferred option in most cases (*4,9*). Incomplete healing may result in pain when sitting, callus overgrowth with associated knee pain and serious bone and muscle atrophy (*1*). Malfusion of the ischial tuberosity with the os pubis is mostly related to persistance of a wide separation of the avulsed fragment (*3,6,10*). When the distance measures more than 2 cm, surgical treatment is indicated. Surgery may also be indicated if there is an indication of damage to the sciatic nerve (*11*). There is no consensus concerning the best surgical approach, however, most authors prefer a subgluteal approach (*5*). In elderly patients living an active life, it is worthwhile to consider surgery. Usually patients can be mobilized early, decreasing the risks of postoperative complications such as bed sores, pulmonary problems and deep venous thrombosis. However when a patient is bedridden or vulnerable, improvement in the quality of life by surgery is questionable and surgical management would expose the patient to potential nosocomial infections and their complications.

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