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Case report

Hip fracture in adult osteopetriosis

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1. Introduction

Schonberg [1] first described osteopetriosis in 1904. It is a rare condition characterised by the failure of osteoclasts to resorb and remodel new bone [2]. The bone is dense, hard and brittle. In the adult 'benign' form, fractures are usually single, isolated and transverse [3].

2. Case history

In 1992, a 45-year-old man known to have osteopetriosis sustained a transverse subtrochanteric fracture of his left femur after falling off a bicycle on holiday. He underwent internal fixation of the fracture with a Zickel Nail. At operation the femoral medullary canal was absent and reaming it to 14.5 mm took 3 h. As the nail was inserted, the proximal femur fractured longitudinally. This was held together with two partridge wires and the rest of the operation had to be abandoned (Fig. 1). His postoperative recovery was long and complicated remaining in skeletal traction for 3 months. Seventeen months after insertion, the original nail was exchanged for a Kuntscher nail because of severe buttock pain due to the prominent proximal end (Fig. 1). He was discharged from follow up, 3 months later.

In 1997, the same patient fell against machinery at work and sustained a similar subtrochanteric fracture of the right femur. This was internally fixed using a Dynamic Cortical Screw and plate. The operation took a total of 2 h and 30 min. Postoperative recovery was uncomplicated and he was fully weight bearing after 4 months. At the time of his last follow up in May 1999, he had no right hip pain and a manageable ache on the left (Fig. 2).

3. Conclusion

The management of femoral fractures in osteopetriosis is complicated by the characteristics of the bone with resultant decrease in the medullary canal diameter. Techniques such as intramedullary nailing [4] and total hip replacement [5] have been used in fractures around the hip. Most reports comment on the difficulty in reaming the intramedullary canal. This case illustrates that an extramedullary device maybe a safer option in this situation.



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Fig. 2. Orientation: between end of case history and conclusion.

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