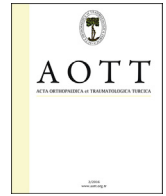


Contents lists available at [ScienceDirect](#)

Acta Orthopaedica et Traumatologica Turcica

journal homepage: <https://www.elsevier.com/locate/aott>

Fracture of the femoral component after a lightning strike injury: A case report

Xavier Lizano-Díez^{*}, Eduard Alentorn-Geli, Alfonso León-García, Fernando Marqués-López

Department of Orthopaedic Surgery, Parc de Salut Mar. Hospital de l'Esperança, Barcelona, Spain

ARTICLE INFO

Article history:

Received 30 October 2014
Received in revised form
22 February 2015
Accepted 25 April 2015
Available online xxx

Keywords:

Revision
Femoral neck
Fracture
Crevice
Corrosion
Lightning-strike

ABSTRACT

A fracture of the stem in a total hip arthroplasty (THA) is an uncommon complication. We report a case of femoral stem fracture in a 55-year-old male patient after a lightning strike. A revision was conducted using a Wagner osteotomy and a revision prosthesis. Dall-Milles cerclages were used to close the osteotomy. The postoperative evolution was satisfactory, with an immediate partial weight bearing, consolidation of the osteotomy after three months and return to daily activity without pain.

© 2016 Turkish Association of Orthopaedics and Traumatology. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

A femoral stem fracture in total hip arthroplasty (THA) is a rare complication but it has been reported by many authors.^{1–4} According to the Swedish Hip Arthroplasty Register and the National Joint Registry for England, Wales and Northern Ireland (NJR) the estimated prevalence is about 1–2% of revision procedures.^{5,6} Given the absolute number and analysing the National Joint Registry (NJR) we can observe an increase in the number of cases during recent years (from 89 cases in 2010 to 158 cases in 2013),⁶ probably because a rising number of revision procedures. The treatment of this complication is challenging due to the difficulty of extracting the distal fragment and the subsequent stabilisation of the revision prosthesis.

We present a rare case of femoral component fracture in THA in a young obese patient after a lightning strike. To our knowledge there are no cases reported in the literature about this kind of complication after a lightning strike. The patient was informed that data concerning the case would be registered and submitted for publication, and provided consent.

Case report

The patient is a fifty-five year old male who underwent left primary THA for osteoarthritis thirteen years ago. The surgery was done at an in another institution where a posterior approach was used. The components implanted were a Bicontact[®] (Aesculap, B-Braun GmbH, Melsungen, Germany) uncemented stem and an acetabular component (metal on polyethylene) attached with three screws.

In September 2011 (ten years after primary THA), the patient came to our clinic complaining of hip pain. An important cup asymmetry that indicated wearing of the polyethylene was observed in the radiographic study (Fig. 1). The patient was 185 cm tall and weighed 110 kg (body mass index [BMI], 32.14 kg/m²). The patient underwent revision of the acetabular component and an exchange of the polyethylene component. Significant metallosis and loosening of the acetabular component was observed. The selected components for the revision were a 58 mm Trilogy[®] (Zimmer, Winterthur, Switzerland) acetabular shell attached with three (20, 30 and 35 mm) screws with a Trilogy[®] 58/36 cup. The Bicontact[®] stem was stable, thus no femoral stem revision was performed. This stem system was an uncemented titanium coated stem with a metaphyseal support. A correct fixation without any sign of collapse and anteversion were evaluated previously to the decision of maintaining the component. A Bioball[®] (Merete

^{*} Corresponding author.

E-mail address: xlizano@gmail.com (X. Lizano-Díez).

Peer review under responsibility of Turkish Association of Orthopaedics and Traumatology.

<http://dx.doi.org/10.1016/j.aott.2015.04.001>

1017-995X/© 2016 Turkish Association of Orthopaedics and Traumatology. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



Fig. 1. Anteroposterior radiograph showing wearing of the polyethylene.



Fig. 2. Postoperative radiograph after first revision. A Bioball 4XL was required.

Medical, Berlin, Germany) with a 4XL neck was required to maintain the correct stability of the prosthesis due to laxity with pivoting and external rotation. The Bioball® system consists of different modular neck adapters which allow the surgeon to correct the length and offset of the neck when required. There are eight different sizes between “S” and “5XL” in ascending order, depending on the gap to correct. This implant could be useful specially in those revisions of either stem or acetabular component. Regarding to the case, the most probable cause of this laxity is the placement of the revision cup which is in a high, neutral and horizontal position (Fig. 2). The patient had a normal and uneventful postoperative period and remained asymptomatic for two years. He had a Merlé d’Aubigné Postel of 6.6.6 and a Harris Score of 94/100 at the last control.

In October 2013 (two years and one month after the revision procedure), the patient was surprised by a storm and was struck by lightning while strolling. He remained conscious and suddenly he was unable to bear weight on the left leg and a deformity on his left lower extremity was detected. His neurovascular status was stable. Plain radiographs demonstrated a displaced fracture through the base of the neck of the femoral component (Fig. 3). The patient underwent revision THA through a posterior iterative approach. A transfemoral osteotomy was required to extract the stem, which presented no signs of loosening. Prophylactic Dall-Miles wiring was done to prevent fractures just under the osteotomy. The selected component for the revision was a modular curve Revitan® (Zimmer, Winterthur, Switzerland) system. It was a 200 × 180 mm stem with a distal locking screw of 36 mm and a metaphysis of 75 mm with 15° of anteversion. The head was a #36 metallic. Finally, the osteotomy was fixed with four Dall-Miles cerclages (Fig. 4). After the surgery, the patient needed two blood transfusions due to postoperative anaemia. The postoperative course was otherwise unremarkable and the patient was allowed partial two-crutch assisted weight-bearing. The patient was discharged with an active range of motion of

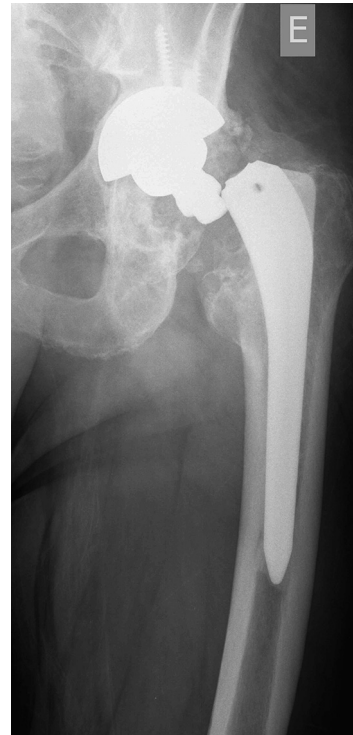


Fig. 3. Anteroposterior radiograph after the lightning strike. The fracture locates through the base of the neck.

75° of hip flexion and 15° of hip abduction. Three months after surgery, the radiographs demonstrated consolidation of the osteotomy. After one year, the patient is satisfied, without pain and had returned to work.

Download English Version:

<https://daneshyari.com/en/article/8795615>

Download Persian Version:

<https://daneshyari.com/article/8795615>

[Daneshyari.com](https://daneshyari.com)