CASE REPORT

Long-standing extracapsular fracture of the femoral neck: arthroplasty or fixation? Case report

Zastarzałe złamanie poza-torebkowe szyjki kości udowej: protezoplastyka czy zespolenie? Opis przypadku

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Abstract

Extracapsular fracture of the femoral neck requires reposition and stabilization with the use of metal systems. What type of surgery should be performed in the event of a long-standing fracture and when it should be qualified as a long-standing fracture are the questions to which no explicit answers have been found so far. We operated a female patient with such fracture, after two-month long acute pains resulting from an undiagnosed, minor injury. Initially, we managed the fracture with the use of Targon PF system (BBraun/Aesculap, Germany) but due to the lack of symphysis and destabilization of the fixation system, a revision surgery – total arthroplasty – had to be performed with the use of cemented Bicontact stem and Bicontact Press Fit acetabular cup. The surgery brought a good functional outcome.

Key words: femoral neck, extracapsular fracture, long-standing fracture, fixation system, total hip arthroplasty.

Streszczenie

Złamania pozatorebkowe szyjki kości udowej są wskazaniem do zabiegu repozycji złamania i stabilizacji przy użyciu metalu. Jakiego typu zabieg wykonać w wypadku zastarzałego złamania tego typu, i kiedy złamanie uważać z zastarzałe? Na to pytania brak jest jednoznacznych odpowiedzi. W naszym ośrodku operowaliśmy chorę z tego typu złamaniem – po dwóch miesiącach silnych dolegliwości bólowych poprzedzonych niediagnozowanym błahym urazem. Pierwotnie złamanie zaopatrzyliśmy przy użyciu systemu Targon PF (BBraun/Aesculap, Germany) lecz ze względu na brak zrostu i destabilizację zespolenia reoperowaliśmy je i dopiero po protezoplastyce całkowitej (Trzpień Bicontact cementowany i panewka Bicontact Press Fit ), uzyskaliśmy dobry wynik funkcjonalny.

Słowa kluczowe: szyjka kości udowej, złamanie poza-torebkowe, złamanie zastarzałe, zespolenie, protezoplastyka całkowita.
Introduction

An excellent mode of management of the proximal femur fracture is anatomical reposition and stabilization with the use of Targon PF nail (B Braun/Aesculap, Germany) [1-5]. As regards elderly patients, a large number of authors recommend initial management of the femoral neck fracture with the use of hemiarthroplasty [6,7,8] or total arthroplasty [9]. There are no explicit guidelines regarding management of such frequent injuries of motor systems – surgeons advocate a wide range of the modes of management of such injury [10]. Yet total hip arthroplasty is a successful revision procedure when initial fracture stabilization fails [11]. As we found no convincing scientific data on the time period after which reposition and stabilization of fracture is pointless, we made such attempt.

Clinical case

A 64 year old female patient stumbled on the rough surface, fell and injured her left femoral bone. For two months patient was treated by a General Practitioner with pain killers. She had no X-ray picture taken. As a clinical improvement was not observed, patient was admitted to our hospital. Radiographs revealed extracapsular fracture of the left femoral neck, type 31B3 according to AO.

Then, on the first day since the surgery was performed, early kinesitherapy was applied – passive hip and knee exercises (CPM) and the patient was brought back to upright position. On the third day patient began to walk with elbow crunches and stimulated loading of the affected limb. Patient reported no pains. Radiographs performed every month revealed no progress in the osseous symphysis so patient walked with elbow crunches with a loading of the affected limb until she could not stand pain. After 6 months patient was admitted to our hospital again due to the pains making it impossible for her to walk.
Radiographs performed 6 months after patient sustained her injury, revealed destabilization of fixation with the primary defect of the acetabular bone. Consequently, patient had revision surgery, where fixing material was removed and total hip arthroplasty implanted. During the stem implementation, there were found no support above the smaller trochanter and a round femoral canal making it impossible to insert and fix a stable uncemented implant. Therefore, Bicontact stem fitted in the lower part and fixed with the use of cement by means of the centralizer and the intramedullary cap dedicated for this arthroplasty. An acetabular element was inserted using no cement – press fit plasma cup.

Two months after the surgery patient walks with a full load on the operated limb and a 1 cm compensation under the unaffected limb. A functional outcome is good – Hip Harris Score 96.

**Discussion**

Operative treatment tailored for the patient's general and local condition is the only effective procedure applied in the proximal femur fracture. The one that enables recovery and restores full fitness. It is a common knowledge that the sooner reposition and stabilization of the fracture is performed, the bigger chance for the osseous symphysis and good functional outcome is observed. Given the literature data and a bad outcome we achieved after the technically-correctly performed surgery of the long-standing fracture, primary total hip arthroplasty is an effective procedure.

**Conclusions**

Early diagnostics, low-invasive operational procedure and early kinesitherapy yield good functional outcome. As regards a long-standing fracture of the proximal femur, primary hip arthroplasty seems to be the procedure ensuring a good outcome of treatment.
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References