

Bilateral Femoral Neck Fracture Operated By Bilateral Hip Hemiarthroplasty at One Time about Two Cases

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Abstract

Case Report

Bilateral femoral neck fractures are a rare entity, most often occurring in the elderly, we report two cases of bilateral femoral neck fracture operated by a bilateral hip hemiarthroplasty in one time only with good progress after one year. In the literature there are few cases of bilateral femoral neck fracture operated on in one time only, the objective of this study is to discuss the implications of this case on our routine orthopedic practice.

Keywords: Hip hemi-arthroplasty, femoral neck fracture, treatment.

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INTRODUCTION

Fractures of the femoral neck in the elderly are a real social problem [1], because of their frequency and morbidity and mortality. There is very few case reports published wherein fracture occurred due to low energy impact [2, 3]. The goal of treating such fractures is to allow the patient to “stand up” as early as possible in order to minimize complications in the supine position.

Hip hemiarthroplasty is in fact an improved cervico-cephalic arthroplasty. This comprises an intermediate joint between the prosthetic head and the mobile cup which articulates with the patient's acetabulum.

CASE PRESENTATION

We report here two cases;

First case; Man 72 years old, without antecedents, autonomous before the trauma presented to emergencies for multiple trauma following a road accident, pedestrian hit by a car at the point of impact on the forearm and both hips, on admission found a patient with moderately impaired general condition, pale, her lower limbs shortened, in abduction and external rotation. The pelvis X-RAY found a femoral neck fracture under capital on the right and trans cervical on the left Pauwell type III and Garden II (figure 1).

Second case; man 40-year old, with chronic renal failure, autonomous before the trauma presented to emergencies for trauma of the hip following a fall from a height of five meters at the point of impact at two hips. The clinical examination on admission found a patient in good general condition, his lower limbs shortened, in abduction and external rotation. The pelvis x-ray found a bilateral basi-cervical femoral neck fracture Pauwell type III Garden IV (figure 3). So a bilateral hip hemiarthroplasty was planned following her medical fitness. (Figure 2) et (figure 4).



Fig-1: Anteroposterior radiograph of the pelvis showing bilateral completely displaced intracapsular fractures of the neck of femur: first case.



Fig-2: The pelvis showing bilateral Anteroposterior radiograph of the pelvis showing bilateral fractures of the neck of femur treated by hip hemiarthroplasty of first case.



Fig-4: The pelvis showing bilateral Anteroposterior radiograph of the pelvis showing bilateral fractures of the neck of femur treated by hip hemiarthroplasty second case



Fig-3: Anteroposterior radiograph of the pelvis showing bilateral completely displaced intracapsular fractures of the neck of femur: second case.

Single stage bilateral hemiarthroplasty was done using, posterolateral approach of Moor (figure 5, 6) with alternate left and right lateral position was employed. Radiological control was done immediately after the surgery which showed a good positioning of the implants with absence of other complications following surgery, patients were mobilized full weight bearing with walker on first post-operative day and discharged on 5th postoperative day. They had an uneventful wound healing and were ambulating independently without any aid by 6th week post-surgery. They were symptom free at her protocolized follow-up of 3rd month, 6th month and at 1 year. Harris hip score at 1 year follow-up was 98 which she continued to maintain at her last follow-up of 30 months post-surgery. Radiographs of the pelvis at 30 months follow-up are shown in.



Fig-5: Lateral position ant posterolateral approach of moor



Fig-6: Right Hip hemiarthroplasty

DISCUSSION

Bilateral fracture neck femur is a rare entity and only few cases have been reported in the literature. These fractures occur mainly due to high impact injury [4, 5], or fall from a height [6]. Non-traumatic causes include chronic renal failure, pelvic irradiation, osteomalacia, pregnancy, renal osteodystrophy, chronic steroid, and antiepileptic use. Other uncommon causes are following epileptic attack, electrical shock, or post electroconvulsive therapy.

Uncomplicated trauma is a rare cause of bilateral fracture neck femur [7]. Dhar [8], described a case of bilateral fracture neck femur in a 9 year old following a road traffic accident and Carrell *et al.* [6], in a 8 year old following fall from a height. Atkinson *et al.* [9], also has reported four cases of bilateral fracture neck femur following violent trauma, one after vehicular accident, two after fall of heavy object and one due to fall from height. There have been few reports of bilateral fracture neck femur in elderly patients following minimal trauma [10]. Also, it is important to have radiographs of pelvis with both hips in initial assessment for every patient, especially for elderly patients and patients with co-morbid conditions to rule out this rare entity.

Various modalities of treatment have been advised for treating such fractures. In younger patients, osteosynthesis with closed/open reduction and cannulated screw fixation is being advocated and in elderly patients, arthroplasty is recommended to be the treatment of choice.

Sood *et al.* [2], advised single stage cemented arthroplasty in supine position, using anterolateral approach for bilateral fracture neck femur fracture in

elderly patients. McGoldrick *et al.* [5], also advised for single stage total hip arthroplasty but with alternate lateral position. Although lateral position increases operative time and requires repeat draping, both authors agree that no technique is superior.

CONCLUSION

In summary, simultaneous bilateral fractures of the femoral neck are infrequent and severe and need logical treatment protocol. Even with all our modern advances the mortality may be never low. High energy SBFFN should be cautiously indicated for emergency orthopedic operation and delayed, regular follow-up for early detection of complications and effective prevention in patients at risk is of great significance.

REFERENCES

1. Kalacı, A., Yanat, A. N., Sevinç, T. T., & Dođramacı, Y. (2008). Insufficiency fractures of both femoral necks in a young adult caused by osteoporosis: a case report. *Archives of Orthopaedic and Trauma Surgery*, 128(8), 865-868.
2. Sood, A., Rao, C., & Holloway, I. (2009). Bilateral femoral neck fractures in an adult male following minimal trauma after a simple mechanical fall: a case report. *Cases Journal*, 2(1), 1-3.
3. McGoldrick, N. P., Dodds, M. K., Green, C., & Synnott, K. (2013). Management of simultaneous bilateral neck of femur fractures in an elderly patient. *Geriatric Orthopaedic Surgery & Rehabilitation*, 4(3), 71-73.
4. Gunal, I., Gursoy, Y., & Arac, S. (1991). Traumatic bilateral fractures of the femoral neck (a rare case report). *Hacettepe J Orthop Surg*, 1, 4.
5. Konforti, B., & Chokanov, K. (1956). Simultaneous bilateral nailing by two teams of surgeons in fractures of the femoral neck. *Khirurgiia*, 9(1), 75-78.
6. Carrell, B., & Carrell, W. B. (1941). Fractures in the neck of the femur in children with particular reference to aseptic necrosis. *JBJS*, 23(2), 225-239.
7. Powell, H. D. W. (1960). Simultaneous bilateral fractures of the neck of the femur. *The Journal of Bone and Joint Surgery. British volume*, 42(2), 236-252.
8. Dhar, D. (2013). Bilateral traumatic fracture of neck of femur in a child: a case report. *Malaysian Orthopaedic Journal*, 7(2), 34.
9. Atkinson, R. E., Kinnett, J. G., & Arnold, W. D. (1980). Simultaneous fractures of both femoral necks: review of the literature and report of two cases. *Clinical Orthopaedics and Related Research*, (152), 284-287.
10. Tait, G.R. (1988). Simultaneous bilateral fractures of the femoral neck. *Scott Med J*, 33(5):341-342.