

BILATERAL SIMULTANEOUS FRACTURES NECK OF FEMUR: A CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT

We report a case in an elderly lady who had an epileptic convulsion and sustained bilateral simultaneous fracture neck of femur. This lady was deaf and dumb and the diagnosis was therefore delayed. The patient was initially diagnosed as flaccid paralysis and was kept under observation. After 36 hours, x-rays of hip and dorsolumbar spine was done that showed bilateral simultaneous fractures of hip. Both fractures were treated with bilateral modular hip hemiarthroplasties within 24 hours of diagnosis. She made uneventful recovery.

Key Words: Epileptic Convulsion, Bilateral Fracture Neck of Femur. Bilateral hemiarthroplasty.

INTRODUCTION

Unilateral subcapital fracture neck of femur is common in the elderly population, but simultaneous bilateral subcapital fractures are rare. We report a case in an elderly lady who had an epileptic fit and sustained this type of injury. Although fracture dislocation of shoulder and vertebral fractures are known after grand mal convulsions, fractures in periacetabular areas are less common. The primary attending physician tends not to think about this injury. We report this case to increase the awareness of this injury in handicapped elderly epileptic patients.

CASE REPORT

An 82 year old lady was referred by her primary care physician as gone off her feet. She was known epileptic. Unfortunately she was also deaf and dumb. She had an epileptic convulsion which was witnessed by her husband, after which she was not able to move her legs. A preliminary diagnosis of flaccid paralysis was made and she was kept under observation. She was lethargic and less responsive at the time of admission. After 36 hours she started to move her legs. An X-Ray of pelvis and dorsolumbar spine was requested which showed bilateral subcapital fractures neck of femur of Garden type IV and wedging of the bodies of T₄₋₇. Her hemoglobin concentration was 11.6 g/dl and mean corpuscular volume was 96.3 fl. Her serum biochemistry was abnormal with serum

calcium level of 2.05mmol/l (normal=2.20-2.65) and serum phosphate level was 1.49mmol/l (normal=0.80-1.45). Serum electrolytes were normal. She was operated next morning and was treated by bilateral modular hip hemiarthroplasties. She had excellent recovery and was discharged home into the care of her husband. (Photographs)

DISCUSSION

In epileptic convulsion muscles contract forcefully and can result in fractures and dislocations. Finelli et al¹ reported in their study that 1.1% of patents admitted to hospital for convulsion had fractures. The fracture during convulsion involves mostly the spine, upper end of humerus and femur. Patient on long term anti-epileptic drugs are prone to osteomalacia and thus these patient are at increased risk of fracture.

The mechanism of fractures in the periacetabular area is not understood fully. Andreini² suggested that when legs are adducted, central dislocation occurs, and femoral neck fractures occur when legs are abducted. Undiagnosed fracture neck of femur has detrimental long term result. There is risk of non-union and osteonecrosis of femoral head with functional disability, pain and degenerative joint disease. A late diagnosis of undisplaced fracture of femoral neck may result in progression to a displaced fracture that complicate the situation further.

Literature shows that most of bilateral fractures of neck of femur result from electroconvulsive therapy (ECT). Powell et al³ reported the longest series of 20 bilateral fractures; 18 occurred after ECT and 2 after a grand mal convulsion. Atkison et al⁴ reported nine cases of bilateral neck of femur fracture. Most of them were young patients. Four cases were due to severe trauma and four were due to either seizures or ETC.

In the review of English literature using Medline dating back to 1966, we found a number of other causes of bilateral fractures of neck of femur. Taminiu and Slooff⁵ reported two cases as a complication of myelography. Both of these cases had myoclonic convulsions. These convulsions were the side effects to contrast medium Conray-60.⁶ Grigsby et al⁷ in their study reported four cases after groin irradiation for gynecological malignancies. They concluded that fractures after irradiation are related to irradiation dosage, cigarette smoking and x-ray evidence of osteoporosis. Taylor and Grant⁸ reported a case of bilateral fracture neck of femur which was caused by convulsions secondary to dietary induced hypocalcaemia. Annan and Buxton reported bilateral stress fracture associated with abnormal anatomy. Their patient was not involved in strenuous activities. The X-rays of patient revealed anatomical abnormalities. They believe that abnormal length and varus position of the neck increases the bending movement. The small diameter of the neck also contributes to an increased stress gradient. All these anatomical factors can result in stress fractures.⁹

CONCLUSION

As the number of reports of these fractures after seizures is growing, the attending physicians should be aware of these injuries. In patients with

communication disabilities or unconscious patients a thorough physical examination of the musculoskeletal system and radiographs of the suspected areas are recommended.

REFERENCES

1. Finelli PF, Cardi JK. Seizure as a cause of fracture. *Neurology* 1989; 39:858-60.
2. Andreini G. Unusual case of bilateral fracture of the neck of femur. *Arch Ortop* 1956; 69:25-39.
3. Powell HD. Simultaneous bilateral fractures of the neck of the femur. *J Bone Joint Surg Br* 1960; 42-B: 236-52.
4. Atkinson RE, Kinnett JG, Arnold WD. Simultaneous fractures of both femoral necks: review of the literature and report of two cases. *Clin Orthop Relat Res* 1980; 152:284-7.
5. Taminiu AHM, Slooff TJJH. Bilateral femoral neck fractures as a complication of myelography. *Acta Orthop Scand* 1980; 51: 621-5.
6. Avram J, Yusefovic T, Dubin Z. Bilateral fracture of neck of femur complicating radiculography with Conray-60. *Harefuah* 1975; 89:253-4.
7. Grigsby PW, Roberts HL, Perez CA. Femoral neck fracture following groin irradiation. *Int J Radiat Oncol Biol Phys* 1995; 32:63-7.
8. Taylor LJ, Grant SC. Bilateral fracture of the femoral neck during a hypocalcaemic convulsion. A case report. *J Bone Joint Surg Br* 1985; 67:536-7.
9. Annan IH, Buxton RA. Bilateral stress fractures of the femoral neck associated with abnormal anatomy- a case report. *Injury* 1986; 17:164-6.

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