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Primary Total hipreplacement and acetabuloplasty using nativefemoralheadin Neglected Posterior Fracture Dislocation of Hip an Exeperince from North Central Nigeria

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I. Introduction

Treatment of neglected unreduced fracture dislocation of the hip is usually associated with a lot of difficulties and requires complex reconstructive procedures. [1,2]However, majority of these patients present in settings where such procedures are not readily available.[3,4] Traumatic posterior hip dislocation is an absolute orthopedic emergency and the incidence which has being increasing steadilycan be partially attributed to many high speed vehicles.[5,6,7,8] Early recognition and treatment is essential for a good and satisfactory clinical outcome. Various factors are responsible for the delay in management of the patients and they include; poly traumatised patient in whom other life threatening injuries had diverted attention from the fracture dislocation.[3] Concomitant fractures of the tibia and or femur could also result in a typical presentation and subsequently overlooking the fracture dislocation.[9] Patronage and presentation to traditional bone setters is still quite common in our environment, leading to poor management and unacceptable complications. A review of literatures suggest that femoral head necrosis is almost inevitable in neglected fracture-dislocation of the hip.[9,11] Consequently, primary arthroplasty has been recommended by a number of authors.[1] Primary total hip replacement is fraught with a lot of challenges which attributable to the fracture dislocation of the acetabulum and lack of adequate bone stock to implant the acetabular cup.[2] These may require the use of modular implants and bone grafting as is being practiced in revision surgery. Autogenous femoral head can be used to reinforce the deficient wall and these have being used extensively in DDH.

II. Case Report 1

M.A a 56 year old man was an unrestrained front sit passenger of a saloon car which was involved in a motor vehicular collision six month before presentation. He sustained closed injury to the left hip, pain deformity and inability to bear weight on the left limb. There were no other injuries to any other system or organs. He initially presented to a peripheral health center where he was resuscitated but he subsequently opted for management by traditional bone setters (TBS) where he received muscular massage and application of local herbs without any improvement no effort was made at reduction. He presented with residual deformity and inability to bear weight. He had no previous co morbidity.

He was a middle aged man, not pale anicteric well hydrated and not in any form of distress.He was hemodynamically stable. Major findings were in the musculoskeletal system. The left lower limb was shortened, internally rotated, flexed at the hip and knees with associated inability to bear weight on the limb. The range of movement was reduced. The power, tone and sensation were intact distally. The other systems were clinically intact.

Investigations: Chest radiograph, full blood count, electrolyte urea and creatinine. ECG were all within normal limits. X-ray of the hip revealed a posterior dislocation of the hip with associated mal-united fracture of the posterior acetabula wall. The medial aspect of the head was also collapsed.

An assessment of neglected unreduced posterior hip dislocation(Thompson and Epstein type II)was made. Patient was prepared for acetabuloplasty and total hip replacement through the posterior lateral approach of Kocher lagenback. Intraoperative findings were those of a posteriorly dislocated head of femur, malunited posterior acetabula fracture which was porotic, medial collapse of the head of the femur and the acetabula cavity was shallow and filled with fibrous tissue.

Osteoclasis of the malunion was done, reduced, fixed and augmented with the resected femoral head. The acetabular cavity was rimmed carefully over the construct, femoral stem was rasped after which the cavity was irrigated, size 56 uncementedacetabular cup inserted and anchored with pegs. A size 5 uncemented stem was inserted with appropriate neck. This was reduced and closed up in layers over a drain. Post operatively he was placed on antibiotic analgesic and drain was removed after forty eight hours. M.A was mobilized on bilateral axillary crutches non weight bearing on the left. At six weeks follow up x-ray done revealed callous formation. Partial weight bearing was commenced at 12weeks post operations and by the 15week post op M.A could ambulate without the crutches.

III. Case Report 2

D.G was a 60year old civil servant who presented with deformity and inability to bear full weight on the left hip. He was involved in a road traffic accident thirteen months prior to presentation at a private orthopedic hospital, Jos. He sustained features consistent with a posterior dislocation of the hip. He immediately opted for treatment by traditional bone setters (TBS). He was also a known diabetic and hypertensive patient controlled on oral medication.

He was a middle aged man, obese but otherwise in a good state of health. The left lower limb was shortened flexed at the hip shortened and internally rotated. There was limitation in range of all hip movement but no neurovascular compromise.

Radiologic investigations showed an unreduced posterior dislocation of the hip with a non-united fracture of the posterior acetabula wall. Other routine investigations were all within normal limits.

He was subsequently prepared for a cementless total hip replacement with acetabula reconstruction through the modified direct lateral approach of Hardinge.

Intraoperative findings where a posterior dislocation of the head of femur, collapse of the posterior aspect of the head of femur, acetabulum filled with dense fibrous tissue and a widely displaced non-united acetabula wall. The defect in the acetabula wall was reconstructed with the resected head of femur, acetabulum reamed and cup inserted and also femoral stem inserted after necessary preparation

Post operatively, he was mobilized on bilateral axillary crutches non weight bearing. At 6 weeks of follow up, implants were well sited and he was subsequently commenced on full weight bearing at 12 weeks.

IV. Discussion

Neglected posterior unreduced acetabula fracture dislocation is very rare in the developed countries but is unfortunately still common in our environment which can be attributed to a high patronage of traditional bone setter and delay in referral from the referral center. However, the occasional cases seen in the developed societies are due to cases of polytraumatised patients in whom life threatening injuries limit the diagnosis of the dislocationbut in the cases above the injuries were isolated posterior fracture dislocation, Thompson and Epistein type II and the cause of delayed presentation was due to initial presentation to traditional bone setter who lack the expertise and knowledge to diagnose and treat such complex injuries.

Both patients presented above were due to high energy injuries as noted in other studies although it could occasionally occur due to trivial injuries which may be attributable to the predisposing anatomic variants. Various authors have tried to place a time frame on when to attempt open reduction but in the above cases open reduction could not be an option because of the long delay in presentation, collapsed head of femur and the acetabula fracture which would have rendered the reduction unstable and impossible.

The first patient had a malunion of the fractured posterior wall while the second patient had nonunion of the fracture and severe osteolysis which rendered it unfit for reconstruction of the posterior wall using the fractured wall. Options of reconstruction include the use of an acetabula wall cage, or the use of a bone graft to increase the bone stock and afford a scarford for theacetabular cup or the use of bone graft which could to heterogeneous or autogenous to reinforce the wall. The dislocated head offered a ready source of bone graft. This prevented the morbidity that could have been associated with having to harvest the graft from more distal sites. Bone bank services and the appropriate acetabula cage were not available and could not be considered. The most difficult but most important stage of the surgery is creating of a sufficiently stable bone stock for the acetabular cup; however, this is impeded by fragment displacement, nonunion or prolonged hip dislocation and a porotic bone.

V. Conclusion

Neglected posterior hip dislocation is a condition that ideally may not require such complex reconstructive procedure however due to a complex series of factor they still present in our eniviroment but hopefully with increasing awareness and necessary man power such cases will be on the decline.

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