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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/11025
DOI URL: http://dx.doi.org/10.21474/IJAR01/11025

RESEARCH ARTICLE

TOTAL HIP REPLACEMENTAND AUTOLOGOUS BONE GRAFTING AFTER ACETABULAR FRACTURE

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Manuscript Info

Manuscript History
Received: 22 March 2020
Final Accepted: 25 April 2020
Published: May 2020

Key words:-
Acetabular Fracture, Elderly Patient, Primary Total Hip Arthroplasty

Abstract

Total hip replacement (THR) in the elderly after acetabular fracture presents unique challenges to the orthopedic surgeon. Technical challenges however include infection, residual pelvic deformity, acetabular bone loss with ununited fractures, osteonecrosis of bone fragments. The use of modern implants and alternative bearing surfaces should improve outcomes further. The objective of our study is to investigate the clinical and functional outcome in an elderly population with acetabular fractures after low-energy trauma treated acutely with a total hip arthroplasty and autologous bone grafting of the acetabulum. We report the case of a 72 years old man, operated for a left acetabular fracture with a total hip arthroplasty and autologous bone grafting of the acetabulum.the prosthesis used was a cementless dual mobility total hip prosthesis for reconstruction with 3 pre-shaped, malleable and separable fixation flanges and a Positioning hook inserts. The prosthesis was stable and there were no signs of loosening of the acetabular component or stem.

Introduction:-

Total hip replacement (THR) in the elderly with osteoporotic boneafter acetabular fracture presents unique challenges to the orthopedic surgeon (1). Once the prosthesis is stable with either by ring or acetabular components reconstructionpatient can resume activities with a stable and painless hip.

Case Presentation:

A 72 years old man with no significant pathological history, with a body weight of 78 kg, was hospitalized in our department for a left acetabular fracture (Fig.1,2).

Total hip arthroplasty and autologous bone grafting of the acetabulumfrom the femoral head was performed for our patient. the prosthesis used was a cementless dual mobility total hip prosthesis for reconstruction with 3 pre-shaped, malleable and separable fixation flanges used with Ø4.5 mm screwsand a Positioning hook insertsinto the obturator foramen (Fig.3).

The prosthesis was stable and there were no signs of loosening of the acetabular component or stem after 14 months.The bone graft was completely incorporated and the patient was still independent walker with a stable and painless hip.

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Discussion:-

Orthopedic treatment for displaced acetabular fractures in elderly patients may not be suitable because of the risk of complications due to the prolonged period of decubitus. Open reduction and internal fixation requires one surgery, but may nevertheless lead to a second operation because of osteoarthritis. Primary THA has many advantages: full weight bearing is achieved rapidly, decubitus complications are avoided, functional outcome was good with union for our patient (2,3).

It has been reported that bony union of acetabular fracture after open reduction and internal fixation (ORIF) was achieved in 74 % patients younger than 60 years, but in only 44 % of the patients older than 60 years (4). Secondary THA following ORIF is a demanding technique. Due to adhesions and a frequent malposition of the acetabulum, THA is associated with and increased risk of infection, tendency to develop para-articular ossifications, and a higher risk of early component loosening than in the standard procedure. One of the options is to perform acetabular stabilization and primary THA at one stage (5,6).

The results of our study are fully in agreement with those reported for THA after acetabular fracture in literature (7,8).

Conclusion:-

Primary total hip replacement with a reinforcement by fixation flanges, positioning hookand bone grafting of the socket seems to be a promising treatment alternative in displaced acetabular fractures in elderly patients with osteoporotic bone.

We believe that an acute THA may provide several advantages including only one procedure and quick weight bearing with a lower rate of decubitus complications.

Fig.1:- X Ray of acetabular fracture.

Fig.2:- Tomography of acetabular fracture.

Fig.3:- Postoperative control X Ray.

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