

Case Report

Restoration of neglected fracture dislocation hip in elderly: a case report

Praveen Raj*, Kaustav Mukherjee, Gokul Raj Dhanraj, Sundararaja Bhaskar, Pradeep Jayaram Purushothaman

Sri Ramachandra Institute of Higher Education, Chennai, Tamil Nadu, India

Received: 25 October 2021

Accepted: 01 December 2021

*Correspondence:

Dr. Praveen Raj,

E-mail: praveen.raj.473@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Neglected traumatic fracture dislocation of the hip is a challenging problem due to soft tissue contractures, adhesions, fibro fatty tissue filling acetabulum, avascular necrosis, arthritis and myositis ossificans. These types of injury often get missed at initial evaluation in the presence of distracting injuries and in poly trauma patients. Femoral head fractures account for only 7-16% of all hip fracture dislocations, with combined femoral head and acetabular fractures in elderly being even lower. Literature favours primary hip replacement as compared to hip salvage in age above 60 years and in patients with neglected hip fracture dislocations of more than 3 months duration due to high chances of afore mentioned complications. Here, we report a case of 69 years old male with neglected hip fracture dislocation associated with posterior acetabular wall and femoral head fracture for the challenges in management with a total hip replacement.

Keywords: Neglected, Hip fracture dislocation, Femoral head fracture, Total hip replacement

INTRODUCTION

Neglected traumatic fracture dislocations of the hip are quite rarely found in elderly and such injuries are mostly from high energy trauma. These types of fractures are often associated with a head injury, abdominal trauma, ipsilateral or contralateral limb musculoskeletal injuries which may detract attention from these underlying fractures and as a result often missed at initial evaluation.¹ Femoral head fractures account for only 7-16% of all hip fracture dislocations, with combined femoral head and acetabular fractures incidence being even lower.² There is no clear consensus on management of these type of fracture dislocations in elderly population. They occur as a shearing injury when the flexed femoral head is forced on the posterior wall of the acetabulum causing fracture dislocation/subluxation.³ Neglected hip fracture subluxation/dislocations occur when the patient does not or cannot seek adequate medical care.⁴ Moreover, in

developing countries, indigenous treatments still exist causing further delay in treatment of these fractures. Treatment of neglected dislocation of the hip becomes difficult with time due to soft tissue contractures, adhesions, fibro fatty tissue filling of acetabulum and presence of myositis ossificans.⁵ Apart from difficulty in reduction, there are also high chances of avascular necrosis and arthritis. Recent literature favours primary hip replacement as compared to open reduction and internal fixation in age above 55-60 years and in patients with neglected hip fracture dislocations of more than 3 months duration due to high chances of afore mentioned complications.⁶⁻⁸

Here, we report an elderly male who presented to us for a neglected hip posterior dislocation with associated posterior acetabulum wall and femoral head fracture who underwent a total hip replacement.

CASE REPORT

A 69-year-old male presented to outpatient department with complaints of pain and inability to bear weight on the right lower limb for 3 months following trauma.



Figure 1: Standard AP X-ray pelvis of the patient.

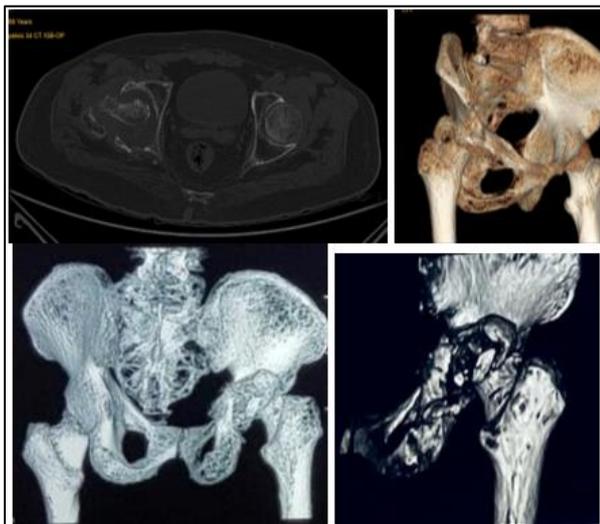


Figure 2: Relevant CT cuts with 3 D reconstructions showing a femoral head fracture with posterior wall of acetabulum fracture along with subluxation of femoral head.



Figure 3: Intra operative findings of the resected femoral head showing partial resorption.

Patient had a history of motor vehicle accident and sustained dashboard closed injury to right hip with head injury. Patient was bed ridden for the initial 1 month following trauma and underwent indigenous treatment the following month before presenting to us.

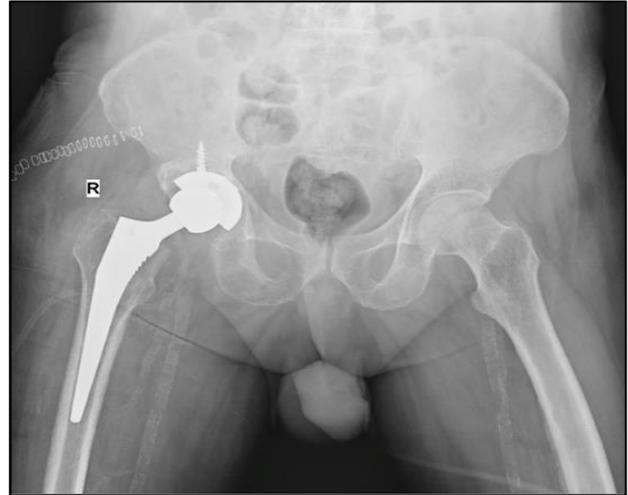


Figure 4: Immediate post-operative pelvis AP X ray.

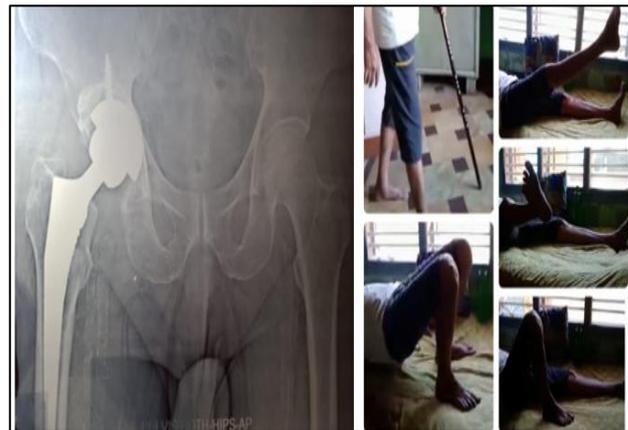


Figure 5: 6 months follow-up, post-operative X rays and functional outcome.

On clinical examination, right lower limb was adducted with a fixed deformity of 30 degrees, right anterior superior iliac spine at a higher level, right lower limb shortening of 4 cm, a positive vascular sign of Narath and a positive telescoping test. Routine blood investigations were sent and were found to be within normal limits. He had elevated sugars for which he was started on insulin. His Vitamin D level was found to be 15.68 ng/ml and Parathyroid hormone level was 14.29 pg/ml. He was started on Oral Vitamin-D 60000 IU once a week for 8 weeks and Inj. Teriparatide 20 mcg S/C daily. Pre-operative Harris Hip score was 16. Radiograph of the pelvis revealed a posterior subluxation of femoral head with a femoral head fracture. Superior acetabular wall showed dysplastic changes with disruption of posterior acetabular wall. Ilioischial and iliopectineal lines were intact and so was the femoral neck (Figure 1).

Computed tomography scans (Figure 2) were necessary for further evaluation which confirmed the radiographic findings and a diagnosis of right posterior hip subluxation (Thompson and Epstein type V) with posterior acetabular wall fracture with femoral head fracture (Pipkin type IV).

Considering it to be a 3-month-old fracture dislocation, the patient was put on foam skin traction for 2 weeks, then we decided to go ahead with a primary total hip arthroplasty. Preoperatively, we planned for Posterior Acetabulum wall reconstruction with plate and screw with capsular release and Adductor tenotomy. Right hip Adductor Tenotomy was done. We went through Kocher–Langenback approach, to address the posterior Acetabular wall fracture for operative skeletal stabilisation. Posterior capsule release was done. Intraoperatively head was resorbed completely (Figure 3); and to our surprise Posterior acetabulum wall fragment was found to be healed completely hence acetabular wall reconstruction was not necessary. Proximal femur resected out after taking appropriate cuts. Serial Reaming of Acetabulum up to 46 mm was done with utmost caution not to break the Acetabular wall and fixed with uncemented Acetabular component (size 46 mm). Serial reaming and broaching of Proximal femur were done. Uncemented femoral component (size 3) was fixed with a femoral head (size 32). Since chronic posterior dislocation of hip is associated with recurrent dislocations, we decided to place a larger sized femoral head (size 32 mm).

Postoperative period was uneventful, and patient was kept on strict abduction pillow for next 2 weeks (Figure 4). Gradual in bed mobilization was started from postoperative day 2 and later hip strengthening exercises were commenced as tolerated by the patient. Patient was allowed to weight bear and walk by 4 weeks. Follow-up was done at regular interval of 2 weeks.

Postoperative Harris Hip Score was 72 at 6 months follow-up. 6 months post-op on follow-up patient was weight bearing and mobilizing well without pain with a significantly good range of motion at the right hip (Figure 5).

DISCUSSION

Treatment of neglected hip fracture-dislocations is still a matter of debate and a controversy till date. Various surgical options have been discussed for treatment of these fractures including the use of a subtrochanteric osteotomy, Girdlestone procedure, hip arthrodesis, hemiarthroplasty, total hip replacement and open reduction with fixation of fracture fragments.⁹ Results were varied given each of these procedures had their own merits and different outcomes. However, the major complication was cited as avascular necrosis of femoral head in more than 50% cases who underwent any form of hip preservation surgeries. Given the backdrop of Indian scenario where traditional bone setters, healers who still have a role in management of musculoskeletal injuries complicate the condition

further giving less an opportunity for joint preservation surgeries and leaving the surgeon with no option other than joint replacements.

Garrett et al⁸ have recommended total hip arthroplasty for hips with posterior dislocations classified as type IV (fracture of acetabular rim and floor) or type V (fracture of femoral head with or without other fractures) with dislocations for more than 3 months.⁴

Pai recommended reduction under anaesthesia for patients where a dislocation had occurred three days to three weeks previously.¹⁰

Patel et al in a case report presented a case of a neglected hip dislocation with history of trauma 15 years back. Patient had obturator dislocation of hip with pseudo acetabulum formation and dislocated femoral head, where an uncemented total hip replacement was done.¹¹

In another case reported by Kumar et al a 31-year-old female presented with a neglected hip dislocation. Initial injury was before 2 years and the patient already had taken multiple treatments without any improvement. She finally underwent a constrained total hip replacement which improved her Harris hip score from 48 to 81 with significant improvement in her range of motion without pain.¹²

In our patient, who presented to us with a 3-month-old, neglected fracture dislocation of the right hip with a history of a month's indigenous treatment, we decided for a primary replacement surgery. Considering possible avascular changes in the dislocated and fractured head, hip preservation surgeries were not sought. Following replacement, patient was made to mobilize early with full weight bearing and helped to get a better functional outcome quicker as well. In elderly patients, it is important to mobilize the patient as early as possible to reduce the complications and morbidities arising out of prolonged immobilization.

CONCLUSION

Treatment of neglected fracture dislocations of hip is always a challenge in elderly. In the presence of fracture non-union of posterior acetabular wall, reconstruction and cup placement is crucial. If the wall fracture healed with secondary congruency then primary press fit of the socket without intra operative periprosthetic fracture is mandatory. Careful preoperative planning is essential before proceeding in such cases of neglected fracture dislocations to help patient achieve a painless mobile joint with good functional outcome.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Hougaard K, Thomsen PB. Traumatic posterior dislocation of the hip—prognostic factors influencing the incidence of avascular necrosis of the femoral head. *Archives of orthopaedic and traumatic surgery*. 1986;106(1):32-5.
2. Goyal R, Bhavsar NM, Goel A, Bhatia N, Mehndiratta A, Goel SA. Neglected Two-Week-Old Unstable Fracture-Dislocation of the Hip in a 60 Years Old, Managed with Hip Preservation Surgery. *Journal of Orthopaedic Case Reports*. 2020;10(4):38.
3. Epstein HC, Wiss DA, Cozen LE. Posterior fracture dislocation of the hip with fractures of the femoral head. *Clinical orthopaedics and related research*. 1985;201:9-17.
4. Kiran S, Sodagor S, Buragohain CR. Neglected posterior hip dislocation: management of an 18 years old female. *Int J Health Res Medico Leg Prae*. 2020;6(2):52-5.
5. Pugalenti PV, Ramanathan S, Thanappan N, Sagar MV. A rare case of neglected unreduced posterior dislocation of hip managed with total hip arthroplasty—a case report. *J Evol Med Dent Sci*. 2017;6:1953-7.
6. Guimaraes RP, de Souza GS, da Silva Reginaldo S, Ono NK, Honda Ek et al. Study of the treatment of femoral head fractures. *Revista Brasileira de Ortopedia (English Edition)*. 2010;45(4):355-61.
7. Gänsslen A, Grechenig S, Nerlich M, Müller M, Grechenig W, Lindahl J. Standard approaches to the acetabulum part 3: intrapelvic approach. *Acta ChirOrthopTraumatol Cech*. 2016;83(5):293-9.
8. Garrett JC, Epstein HC, Harris WH, Harvey Jr JP, Nickel VL. Treatment of unreduced traumatic posterior dislocations of the hip. *The Journal of bone and joint surgery. American volume*. 1979;61(1):2-6.
9. Banskota AK, Spiegel DA, Shrestha S, Shrestha OP, Rajbhandary T. Open reduction for neglected traumatic hip dislocation in children and adolescents. *Journal of Pediatric Orthopaedics*. 2007;27(2):187-91.
10. Pai VS, Kumar B. Management of unreduced traumatic posterior dislocation of the hip: heavy traction and abduction method. *Injury*. 1990;21(4):225-7.
11. Patel S, Thimmegowda RB, John R, Kumar TS, Arjun RH. Total hip arthroplasty in neglected, obturator type, hip dislocation in a young adult—an unusual case and literature review. *Journal of Arthroscopy and Joint Surgery*. 2017;4(1):50-3.
12. Kumar S, Dahuja A, Narula MS, Garg S, Kaur R. Neglected hip dislocation: an unusual presentation, its management and review of the literature. *Strategies in trauma and limb reconstruction*. 2017;12(3):189-92.-100.

Cite this article as: Raj P, Mukherjee K, Dhanraj GR, Bhaskar S, Pradeep JP. Restoration of neglected fracture dislocation hip in elderly: a case report. *Int J Res Orthop* 2022;8:106-9.