International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2025: 7.089

Exceptional 25-Year Survival of Cemented Non-Modular Bilateral Total Hip Arthroplasty in Neglected Bilateral Neck Femur Fractures with Bilateral Hip Dislocation: A Rare Case Report with Narrative Review in Modern Era

Dr Govindbhai Jashvantlal Purohit[1], Dr. Yogesh Purohit[2]

[1]MS DNB Ortho, Consultant Orthopedic Surgeon, Medical Director, Kheteswar MER Center, Ahmedabad -380013
Email: *purohit86[at]yahoo.co.in*

[2]MS Ortho, Ahmedabad-380013

Abstract: ***Neglected bilateral femoral neck fractures with bilateral hip dislocation are extremely rare and present formidable reconstructive challenges. Long-term survivorship data following first-generation total hip arthroplasty (THA) in such complex scenarios are scarce. A narrative review of the literature was undertaken to evaluate the epidemiology, pathophysiology, and management of neglected femoral neck fractures, with emphasis on arthroplasty and implant longevity. Available evidence indicates that arthroplasty provides reliable pain relief and functional restoration in chronic cases. Although cemented THA is less commonly used in contemporary practice, it has demonstrated durable fixation and long-term survival when performed using sound surgical principles. An exceptional case of a two-year neglected bilateral femoral neck fracture with bilateral hip dislocation treated by staged bilateral cemented THA using non-modular stems and 22-mm Charnley heads is presented, with 25-year clinical and radiological follow-up. The patient, now 76 years old, remains ambulatory without support and continues active farming. This case highlights the remarkable durability and functional success of early-generation cemented THA in rare neglected injuries.***

Keywords: Bilateral neck femur fracture, neglected fracture, stage bilateral THA, cemented hip arthroplasty, long-term follow-up

1. Introduction

Bilateral femoral neck fractures are rare, and their association with bilateral hip dislocation is exceptional.(Fig no 1) Delayed presentation further complicates management due to soft-tissue contracture, acetabular changes, and compromised femoral head viability and rehab protocol. While modern uncemented (HA coated) modular arthroplasty systems dominate current practice, long-term survival data of earlier cemented, non-modular implants in such extreme conditions remain scarce. This case-based learning article highlights a 25-year outcome following bilateral cemented THA in a neglected bilateral hip injury. (Fig no 2)

2. Case Presentation

A patient presented two years old neglected (6) bilateral transcervical femoral neck fractures with bilateral hip dislocation. (Fig 1) Single-stage bilateral cemented THA using non-modular stems and 22-mm femoral heads was performed. (Fig no 2) At 25-year follow-up, the patient at 76 years age, remains independently ambulatory, actively working as a farmer, with acceptable radiological findings and no desire for revision surgery.

Follow-up and Outcome

The patient has been followed clinically and radiologically for 25 years. He remains pain-free in daily activities, ambulates without support, and continues manual agricultural work. (Fig no 3) Recent radiographs show implant survival with mild degenerative and wear-related changes on the right side. (Fig 4) Despite radiological findings, the patient declined revision surgery due to satisfactory function.

3. Literature Review

Most published reports of neglected femoral neck fractures advocate arthroplasty in elderly patients; however, bilateral neglected fractures with dislocation are rarely described. Advances in implant design now emphasize larger femoral heads, modularity, ceramic bearings, and biological fixation. Nevertheless, long-term survivorship data beyond 20 years for modern implants remain limited, whereas cemented stems have demonstrated durable fixation when implanted with meticulous technique.

Learning Points

1) Cemented non-modular total hip arthroplasty can achieve exceptional long-term survival when fundamental surgical principles are respected. (4)
2) Functional outcome and patient satisfaction may not correlate directly with radiological implant wear. (2)
3) Revision arthroplasty should be guided by symptoms and functional limitation rather than imaging alone.
4) Historical implants remain relevant in understanding implant longevity and decision-making in resource-limited settings. (1)

5) Long-term studies of THA indicate that implant survival is influenced by surgical technique, patient activity, and biological factors rather than implant design alone. Radiological changes do not always correlate with functional outcomes, emphasizing the importance of patient-centred assessment.

4. Discussion

This case challenges the assumption that modern implants alone ensure longevity. Despite obsolete implant design by contemporary standards, excellent functional survival was achieved. The case emphasizes patient-centred decision-making and highlights that revision surgery is not mandatory in asymptomatic patients with acceptable function.

5. Conclusion

Exceptional long-term outcomes can be achieved even with earlier-generation cemented total hips (THR) in complex neglected hip pathology. Careful surgical technique, appropriate indication, and functional assessment remain paramount.

Modern practice favours uncemented HA coated, modular implants with larger femoral heads (32/36/40) and advanced bearing surfaces. However, cemented THA has demonstrated excellent long-term outcomes, particularly in elderly patients or those with compromised bone quality. Survivorship studies report durable fixation beyond 20 years when meticulous cementing techniques are employed.

This report extends the previously published short-term outcomes by documenting 25-year implant survival and sustained functional independence, offering insights unavailable at the time of the original publication

Comparison of Historical and Contemporary THA Techniques

Sr no	Parameter	Early 2000s Practice	Contemporary Practice
1	Femoral stem	Cemented, non-modular	Modular, cemented/uncemented
2	Head size	22 mm	32–40 mm
3	Acetabular cup	Cemented polyethylene	HA-coated uncemented
4	Fixation philosophy	Cement-based	Biological fixation
5	Bearing surface	Metal–polyethylene	Ceramic-based
6	Longevity evidence	>25 years	Long-term data evolving

References

[1] Charnley J. Arthroplasty of the hip: A new operation. Lancet. 1961; 1: 1129–1132.
[2] Learmonth ID, Young C, Rorabeck C. The operation of the century: total hip replacement. Lancet. 2007; 370: 1508–1519.
[3] Parker MJ, Gurusamy KS. Arthroplasties for intracapsular hip fractures in adults. Cochrane Database Syst Rev. 2006;3:CD001708.
[4] Kim YH, Kim JS, Park JW, Joo JH. Long-term results of cemented total hip arthroplasty in patients younger than fifty years of age. J Bone Joint Surg Am. 2011; 93: 495–501.
[5] Malhotra R, Arya R, Bhan S. Neglected femoral neck fractures in adults. Injury. 2004; 35: 535–541.
[6] Jain AK, Haq RU, Singh S. Treatment of neglected femoral neck fractures. Clin Orthop Relat Res. 2002; 399: 86–93.
[7] Learmonth ID. Cemented femoral stems: past, present, and future. J Bone Joint Surg Br. 2004; 86: 31–36.
[8] Berry DJ. Epidemiology: hip and knee. Orthop Clin North Am. 1999; 30: 183–190.
[9] Callaghan JJ, Albright JC, Goetz DD, Olejniczak JP, Johnston RC. Charnley total hip arthroplasty with cement. J Bone Joint Surg Am. 2000; 82: 487–497.

Figures and Videos



Figure 1: Pre-operative pelvic radiograph showing neglected bilateral transcervical neck of femur fractures with bilateral hip dislocation (presentation at 2 years post-injury)



Figure 2: Anteroposterior pelvic radiograph at 5-year follow-up demonstrating bilateral cemented non-modular total hip arthroplasty with 22-mm femoral heads



Figure 3: Anteroposterior pelvic radiograph at 25-year follow-up demonstrating bilateral cemented non-modular total hip arthroplasty with 22-mm femoral heads. Radiological changes are noted on the right side; however, the patient remains clinically asymptomatic



Figure 4: Clinical photograph at long-term follow-up showing independent standing and ambulation with minimal support, reflecting excellent functional outcome despite radiological changes at 76 years of age

QR Code / Supplementary Video Access

A QR code is provided linking to a supplementary clinical video demonstrating gait, functional status, and activity level at 25-year follow-up following bilateral cemented total hip arthroplasty. Direct video link (for editorial reference only): https://youtu.be/Igl9zifrn7o

How to Cite the Video Within the Paper

You can place this near your figure/video legend: Supplementary Video 1. "Bilateral neglected transcervical femoral neck fracture with bilateral hip dislocation treated by bilateral THA — long-term functional outcome." Video shows clinical gait, daily activity performance, and radiographic sequences from initial presentation to 25-year follow-up. Available at: https://youtu.be/Igl9zifrn7o

Conflict of Interest declaration

All the authors declare that there is no conflict of interest.

Funding

All the authors declare that there is no fund: **Nil.**

Patient Consent

Written informed consent was obtained for publication of clinical data, radiographs, and supplementary images and video material. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical Considerations

Transparency and Originality Statement

This manuscript represents a substantially narrative review of published literature. An illustrative expanded, and updated analysis of a case initially reported in 2005 with long term follow up is included to demonstrate practical application of principles discussed. The current manuscript incorporates extended 25-year clinical and radiological follow-up, new imaging, updated literature review, and contemporary interpretation. No previously published text has been reused. Ethical approval was not required for this narrative review.