



Cracked but Stable: an Asymptomatic Greater Trochanter Fracture After Bipolar Hemiarthroplasty

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Background

Bipolar hemiarthroplasty is a surgical procedure for treating hip fractures by replacing only the femoral head while preserving the acetabulum. It offers advantages such as reduced blood loss, suitability for high-risk patients, and faster post-operative recovery. The bipolar design helps minimize stress on the acetabular cartilage, potentially extending implant longevity. Post-surgery, patients must maintain proper postures for three months to prevent dislocation and require regular outpatient follow-ups for joint monitoring. This case report presents a cracked greater trochanter that was incidentally discovered during rehabilitation following hip arthroplasty. It highlights the importance of careful follow-up and multidisciplinary collaboration in making appropriate clinical decisions.

Case Description

An 89-year-old male patient presented to the emergency department with right hip pain after a fall. Imaging studies confirmed a right femoral neck fracture, and the patient was admitted to the orthopedic department, where he underwent right bipolar hemiarthroplasty. On postoperative day (POD) 5, the rehabilitation department initiated ambulatory physical therapy, including standing maintenance with a stall bar, strengthening exercises, gentle passive range of motion exercises, stretching, calf pumping, and quadriceps strengthening exercises. On POD 12, he was transferred to the rehabilitation department for more intensive rehabilitation. The patient actively participated in rehabilitation and gaited with a walker in the hospital room. Routine follow-up X-rays were conducted weekly, and on POD 21, a cracked greater trochanter was identified on the right femur. The patient reported no significant change in pain levels. The orthopedic team was consulted again and recommended temporarily holding rehabilitation but did not consider reoperation necessary. The patient was transferred back to the orthopedic department and later discharged. At the POD 3-month follow-up in the rehabilitation outpatient clinic, the patient gaited using a quad cane, reporting still minimal pain. However, imaging revealed the cracked greater trochanter had progressed to a complete fracture with displacement. The orthopedic team continued to recommend observation without surgical intervention.



Figure 1. 3D CT image of the pelvic bone and pelvis AP X-ray at the time of emergency department visit.



Figure 3. Both hips AP X-ray at POD 3 months

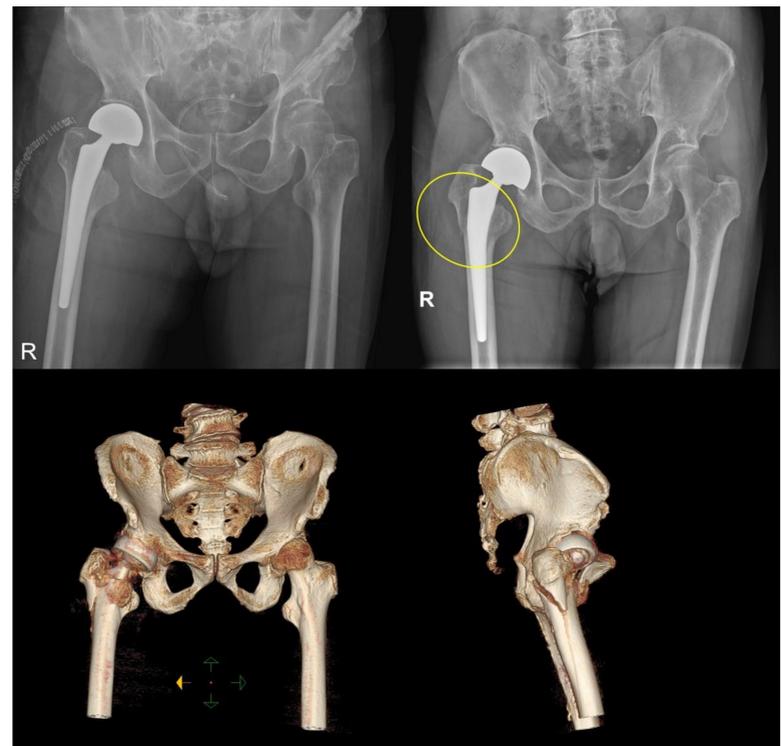


Figure 2. Both hips AP X-ray immediately after surgery and on POD 21 (top row), and 3D CT image of the pelvic bone on POD 21 (bottom row)

Conclusion

This case demonstrates that a greater trochanter fracture can occur incidentally during rehabilitation after hip arthroplasty and may progress to a complete displaced fracture without significant pain. Careful follow-up and multidisciplinary collaboration are essential for appropriate decision-making. Conservative management may be a viable option for asymptomatic patients, reducing the risks associated with additional surgical intervention.