

SUPERIOR GLUTEAL NERVE INJURY AFTER TOTAL HIP ARTHROPLASTY, A CASE REPORT

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Background

Total hip arthroplasty (THA) is a common procedure for treating hip osteoarthritis, known for infrequent complications when compared to other arthroplastic procedures and as such often has a lower threshold for surgical treatment. While rare, peripheral nerve injuries remain an issue. The superior gluteal nerve (SGN) is the most frequently affected nerve following anterolateral approach due to its anatomical course through the greater sciatic foramen and proximity to the gluteal muscles, which is a concern given the growing frequency of such an approach.

Case report

We present the case of a 60-year-old female factory worker, with progressive right hip coxalgia secondary to severe coxofemoral osteoarthritis. She underwent an initially appearing uncomplicated cementless right THA via a direct lateral approach. Postoperatively, she exhibited persistent Trendelenburg gait, marked gluteal atrophy, and difficulty with unipodal stance on the right lower limb. Electromyography (EMG) confirmed a chronic moderate-grade lesion of the right superior gluteal nerve, consistent with axonotmesis (Sunderland Grade II). No evidence of radiculopathy or sciatic nerve involvement was found. The patient underwent intensive and prolonged rehabilitation including targeted hip abductor strengthening, gait training, and hydrotherapy. Despite partial clinical improvement, she maintained signs of gluteal insufficiency and Trendelenburg gait after one year. Symptoms of greater trochanteric pain syndrome and iliotibial band overload developed secondarily, likely due to biomechanical alterations from persistent abductor weakness.

Conclusion

SGN injury is the most common nerve lesion following the lateral approach to THA, often underdiagnosed in the early postoperative period. Persistent Trendelenburg gait and gluteal atrophy should prompt early clinical suspicion. Functional prognosis depends on injury severity and timely rehabilitation. Awareness of this complication is critical for postoperative follow-up in order to minimize long-term disability and optimize functional outcomes.

Keywords: Hip arthroplasty nerve injury gluteal