

COMMON FEMORAL ARTERY OCCLUSION FROM FRAGMENTED CEMENT AFTER TOTAL HIP ARTHROPLASTY

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Introduction

Arterial injury resulting from total hip arthroplasty is a rare occurrence, occurring in <0.20% of the 450,000 total hip arthroplasties performed in the United States annually (1). Here we present the case of an arterial injury sustained from fragmented cement nearly a decade after orthopedic intervention.

Case Presentation

A 59-year-old female presented to the Emergency Department from an outside facility with a 2-hour history of acute-onset left leg weakness and paresthesia.

On exam, the left lower extremity was mottled with decreased motor function and absent sensation below the level of the knee. Doppler signals were present in the common femoral artery but absent in the popliteal, anterior tibial, dorsalis pedis and posterior tibial arteries.

Of note, patient's past surgical history included a left total hip arthroplasty performed 9 years prior to her presentation. Review of imaging from the outside hospital showed cement extrusion from the left hip joint with compression of the left external iliac and common femoral arteries (**Figure 1**).

Case Presentation, Cont.



Figure 1: Compression of the left external iliac and common femoral artery by cement.



Figure 2: Cement fragment, measuring roughly 2 x 1.5 x 1.5 cm.

Intraoperatively, a single large fragment of cement (**Figure 2**) was identified impinging on the distal external iliac/proximal common femoral artery at the level of the inguinal ligament, resulting in chronic-appearing aneurysmal changes to the lateral arterial wall. No blood flow was appreciated beyond the area of aneurysmal degeneration. The affected arterial segment was resected and the defect repaired with a reverse accessory saphenous vein graft following extensive mechanical thromboembolectomy of the distal arteries and 4-compartment fasciotomy. Unfortunately, her postoperative course was complicated by multi-system organ failure with profound hypotension and she ultimately required an above-knee amputation.

Discussion

In a literature review of 93 cases, *Lazarides et al* identified cement spiculae as the major mechanism of arterial injury from total hip arthroplasty (2). Wall penetration or vessel impingement by the cement can lead to false aneurysm formation with subsequent vessel occlusion as was seen in our patient.

Discussion, Cont.

Alshameeri et al saw that in 2/3 of arterial injuries were identified intraoperatively or within the first week of surgery (3). In our review of the available literature, no reports of arterial complications more than 2 years after orthopedic intervention were found.

Conclusion

To our knowledge, this is the first report of an arterial injury presenting nearly a decade following orthopedic intervention. Knowledge of the potential vascular complications of total hip arthroplasty may assist vascular surgeons in the workup of arterial disease in patients who present following these procedures.

References

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