COMMON FEMORAL ARTERY OCCLUSION FROM FRAGMENTED CEMENT AFTER TOTAL HIP ARTHROPLASTY

K. Schafer¹, E. Goldschmidt¹, L. Al-Balbissi², T. Russell²,
¹University of Toledo Department of Surgery, ²Jobst Vascular Institute, Toledo, OH

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).

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.

References