Objective: We report a case of acute arterial occlusion secondary to a leukoblastic embolus causing limb threatening ischemia in a patient with acute myelogenous leukemia (AML) which was successfully treated surgically by open superficial femoral thrombectomy, common femoral endarterectomy with patch angioplasty, and percutaneous tibial embolectomy.

Methods: We performed an extensive literature search using the PubMed database as well as Vascular and Hematology journals and were unable to find more than a few cases of blast cell embolism with resulting acute arterial occlusion. Only a subset of those cases involved surgical intervention.

Results: We report a case of a 78-year-old female with AML and no significant past medical history who presented to the emergency department in blast crisis with worsening left lower extremity pain and decreased motor function. Physical exam revealed a cool, dusky left foot with weakness and decreased sensation in the toes. The patient had palpable right lower extremity pulses, but absent pulses on the left. Ultrasound revealed occlusions of the left common femoral, proximal superficial femoral, anterior tibial and dorsalis pedis arteries. The patient's WBC count was 172,000 with 54% blasts. The case was managed surgically by open superficial femoral thrombectomy, common femoral endarterectomy and patch angioplasty, and percutaneous tibial embolectomy. The patient recovered uneventfully and was transferred to the Oncology unit for induction high dose cytarabine therapy. During her hospitalization, she became pancytopenic and developed neutropenic fever which was treated with broad spectrum antibiotics. Her WBC level began to rise but peripheral blood smear showed no blasts. Surgical pathology revealed that the occlusion was secondary to embolization of a blast cell thrombus.

Conclusions: This case represents a rare presentation of acute arterial occlusion due to a blast cell embolism. AML is often associated with thromboembolism; typically, in the venous circulation. Large artery embolization due to AML is thus rarely seen in the clinical setting. As heparinization is futile in such cases and thrombolysis is generally contraindicated, surgery may be required. Thrombectomy offers a surgical option that may be a useful adjunct to chemotherapy when presented with limb ischemia due to acute arterial embolization in hematologic malignancies.