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Iatrogenic profunda femoris artery branch injury: Endovascular management and follow-up

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Introduction: The Profunda Femoris Artery (PFA) typically gives rise to three perforating arteries that lie close to the linea aspera of the femur and thus it is more liable to iatrogenic injuries related to surgical repair of femoral fractures. Presentation may be acute or delayed and if not diagnosed properly, this injury can be life or limb-threatening. Endovascular management of these patients provides both an accurate diagnosis and a minimally invasive treatment option. Selecting the best endovascular treatment approach for these cases can be puzzling. We present our experience with embolization using ethylene vinyl alcohol co-polymer.

Methodology: Five patients presented to the interventional radiology unit in Assiut University Hospital following surgical repair of proximal femoral shaft fractures with an enlarging thigh hematoma and bleeding from the surgical wound site. Digital Subtraction Angiography (DSA) was performed to diagnose the site of injury and confirm the patency of the Superficial Femoral Artery (SFA). Super selective catheterization of the bleeding PFA branch was performed with an onyx-compatible micro catheter and embolization was done using onyx followed by control angiography. Follow-up CT angiography (CTA) after one year was performed in four cases.

Results: Control angiograms revealed successful embolization of the injured PFA branch in all cases. No further intervention was required in any of the patients. One year follow-up CTA revealed persistent closure of the PFA branch with normal related muscles and soft tissues in addition to patency of the PFA and SFA with adequate distal arterial flow in all the cases.

Conclusion: Endovascular treatment of iatrogenic PFA branch injury using onyx is a safe and effective minimally invasive approach with durable results.

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