

Case report: Femoral hematoma a complication in a young patient with hypothyroidism and Eagle syndrome who underwent embolization bilobed paraclinoid aneurysm

Abstract

Endovascular procedures are becoming increasingly common in the management of various medical conditions. However, like any invasive procedure, there are potential complications that can arise, including femoral hematoma. Femoral hematoma is a rare but potentially serious complication that can occur during endovascular procedures, and prompt recognition and management are essential to minimize the risk of adverse outcomes.

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Introduction

We present the case of a patient with hypothyroidism and Eagle syndrome who underwent embolization bilobed paraclinoid aneurysm. During the procedure, the patient developed a femoral hematoma, which required prompt management. Femoral hematoma is a rare but potentially serious complication that can occur during endovascular procedures, and prompt recognition and management are essential to minimize the risk of adverse outcomes.

According to Li and colleagues, “endovascular procedures require careful selection of patients, meticulous technique, and close monitoring for potential complications”.¹ The management of femoral hematoma depends on the severity of the bleeding and the clinical presentation of the patient.¹

Case report

A 45-year-old female patient with a history of hypothyroidism and Eagle syndrome presented with a bilobed paraclinoid aneurysm with dome 4.8mm. The patient underwent embolization of the aneurysm using flow-diverter device under general anesthesia with fentanyl and desflurane. A central venous catheter and arterial line were previously placed. During the procedure, the patient’s blood pressure was maintained within normal limits. However, towards the end of the procedure, the patient developed a of hypovolemic shock (Figure 1), for which fluid resuscitation, management with vasopressors, and transfusion of packed red cells and fresh frozen plasma were started. It was decided to end the procedure due to hemodynamic instability and abdominal distension was observed, so imaging studies were performed, which concluded with a femoral hematoma, which was attributed to the femoral artery puncture technique.

In addition, ultrasound and tomography of the abdomen were performed (figures 2 and 3) and blood collections were found in retroperitoneal and intraperitoneal spaces, left abdominal with renal

displacement and vascular structures. The patient is admitted for urgent surgery and the bilateral femoral artery is repaired.

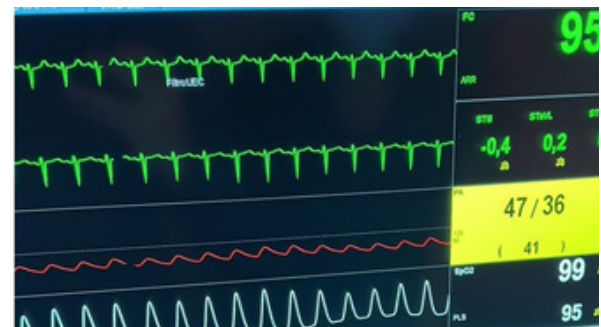


Figure 1 Patient monitor showing tachycardia and hypotension.

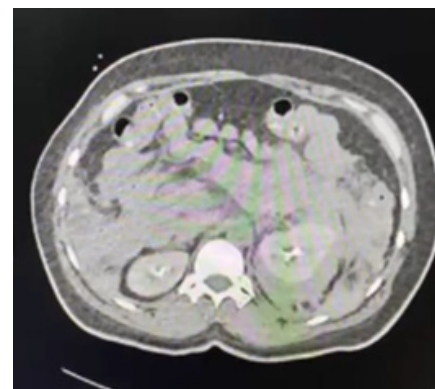


Figure 2 Left perirenal hematoma.

The patient was transferred to the intensive care unit (ICU) where she remained for several days. She was kept under close surveillance and was extubated without complications before being discharged from the intensive care unit.

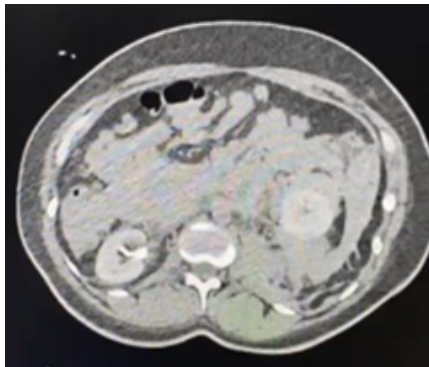


Figure 3 Left perirenal fluid.

Discussion

Femoral hematoma is a rare but potentially serious and fatal complication that can occur during endovascular procedures.¹ This case report highlights the importance of careful patient selection, proper procedural technique, and prompt recognition and management of complications to minimize the risk of adverse outcomes. As Shojania and colleagues have stated, “the key to preventing complications in vascular procedures is meticulous attention to technique and careful patient selection”.² Hypothyroidism and Eagle syndrome are both medical conditions that can increase the risk of bleeding and complications during invasive procedures.² Eagle syndrome, also known as stylohyoid syndrome, styloid syndrome, or styloid–carotid artery syndrome, is a rare condition caused by an elongated or disfigured styloid process. This abnormal styloid process interferes with the function of neighboring structures and gives rise to orofacial and cervical pain that are often triggered by neck movements.

The pain in Eagle syndrome often resembles glossopharyngeal neuralgia but is typically more dull and constant, however, cases with sharp intermittent pain along the path of the glossopharyngeal nerve have also been reported. Clinically, the syndrome is most frequently seen in the third or fourth decades. Although there is no significant sex predilection in the occurrence of mineralization of the styloid process, symptoms are more common in women.^{3,4} It is important to remember that aneurysms have different treatments and these can be treated surgically or through embolization as in this case. Therefore, it is essential to consider these factors when evaluating patients for endovascular procedures. As noted by Li and colleagues, “careful attention should be paid to patients with risk factors for bleeding complications”.¹

The management of femoral hematoma depends on the severity of the bleeding and the clinical presentation of the patient.⁵ In this case report, the surgical management was successful, but in some cases the complications are very high. Early recognition and prompt intervention are essential to prevent severe complications such as limb ischemia, acute compartment syndrome, or even death.⁶ It is also important to note that the use of antiplatelet or anticoagulant therapy can increase the risk of bleeding complications during endovascular procedures. Therefore, it is crucial to carefully evaluate the patient’s

medication regimen and consider appropriate perioperative management strategies as well as always having packed red cells and necessary drugs available in case of any complications.⁷

Finally, this case report emphasizes the importance of multidisciplinary collaboration in the management of complex cases such as this. A team approach involving interventional radiologists, neurosurgeons, anesthesiologists, and other specialists can help ensure the best possible outcomes for patients. As stated by Frericks and colleagues, “effective teamwork and communication are essential to achieve successful outcomes in complex endovascular procedures”.⁸

Conclusion

Femoral hematoma is a potential complication of endovascular procedures that requires prompt recognition and management to prevent serious adverse outcomes. Careful patient selection, proper procedural technique, and multidisciplinary collaboration are essential to minimize the risk of complications and achieve successful outcomes for patients. The use of ultrasound in endovascular procedures is a useful tool that should be considered as the first option in these treatments in order to avoid complications.

Acknowledgments

None.

Conflicts of Interest

None.

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