Ultrasound-guided thrombin injection for treatment of iatrogenic femoral artery pseudoaneurysms compared with open surgery: First experiences from a single institution

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Background
The frequency of iatrogenic femoral artery pseudoaneurysm (FAP) diagnoses have recently increased due to the growing use of diagnostic and interventional procedures involving large diameter sheaths, as well as more potent anticoagulation procedures. In this study, we aimed to present our experience with ultrasound-guided thrombin injection (UGTI) in patients with iatrogenic FAP.

Method
We studied patients with FAP who were under anticoagulant or antiplatelet therapies preoperatively or have received a loading dose during an interventional procedure. The outcomes of patients with FAP and treated with UGTI were compared with those of patients who underwent open surgical repair for pseudoaneurysms.

Results
Among the 55 patients included in this study, 24 had UGTI while 31 had open surgery. The success rate was 95.8% when taking into consideration primary and secondary attempts. The mean duration of the procedure was shorter in patients with UGTI (10.1 ± 3.54 minutes) when compared with those who underwent open surgery (76.55 ± 26.74 minutes; p =< 0.001). In addition, the total complication frequency was significantly higher in the open surgery group (p = 0.005), as was their length of hospital stay (p < 0.001). Cost analysis showed significant differences between UGTI ($ 227.5 ± 82.9) and open surgery ($ 471.2 ± 437.6; p = 0.01).

Conclusion
In conclusion, we have found that UGTI is the safer and more effective choice of treatment in appropriate patients with FAP, as opposed to surgery.