OBJECTIVES

Ultrasound-guided thrombin injection (UGTI) has become one of the methods in the treatment of pseudoaneurysm. We used D-Stat Flowable (Vascular Solution LTD) and FloSeal (Baxter Healthcare Corporation) injection. These bi-component products (collagen and thrombin) are usually used as surgical haemostatic agents. We tried to identify if diameter of the femoral pseudoaneurysms or sheath size were correlated to procedure failure.

METHODS

From January 2012 to March 2019 97 patients with femoral pseudoaneurysm after arterial catheterization, not solved with 48h rest in bed and compression, underwent US guided embolization with haemostatic agents. Exclusion criteria for this procedure were: AV fistulas or no distance between pseudoaneurysm and vessels at US scan. Medical records were reviewed for comorbidities and anticoagulant/antiplatelet therapy. Pseudoaneurysm diameter (anteroposterior, laterolateral) and sheath French size were analysed (two groups: 4-11F vs 12-22F).

RESULTS

The procedure was successful in 90 on 97 patients (93%) with complete sac thrombosis. In 4 cases (5%) after 24h of rest in bed and compression we observed the closure of the pseudoaneurysm. Surgical conversion occurred in 3 cases (2%). We did not observed arterial/venous embolization of haemostatic agents or any other "local" problem at the groins. Antiplatelet or anticoagulant therapies were not statistically correlated to the failure of the procedure, as well as medical preexisting conditions. Logistic regression analyses identified an anteroposterior pseudoaneurism diameter higher than 24mm and longitudinal more than 21mm were correlated with an higher risk of failure and need of more than one treatment. French size of the sheath were not statistically correlated to an higher risk of failure but in the 12-22F size group more than 1 injection were needed to achieve sac thrombosis. Mean follow-up was 46 months with no pseudoaneurysm riperfusion at US duplex control scans.

CONCLUSIONS

Femoral pseudoaneurysms are becoming more frequent due to growing of percutaneous procedures in patients on chronic anticoagulation and/or double antiplatelet therapy. Even if larger sheath were used, this procedure is effective even if more than one injection is needed and it was more technical demanding. Attention is advised in larger pseudoaneurysms, knowing that open approach is always possible, also after percutaneous procedure.

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