VIA MEDICA

LETTER TO THE EDITOR

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Author's response

I have read with interest the comments by Dr Kardesoglu on our paper 'Predictors of successful iatrogenic pseudoaneurysm compression dressing repair'.

I could not agree more in regard to preventing the formation of iatrogenic pseudoaneurysms (PSA). The risk factors, including female gender, body mass index ≥ 28, hypertension, simultaneous anticoagulation, large catheters ≥ 7 F, various percutaneous vascular procedures such as intra-aortic balloon pump insertion or the technique of femoral artery puncture are by now well established [1–5]. I believe that the low (0.34%) complication rate of PSA formation at our institution out of a total of 36,359 cardiac catheterizations (20,315 diagnostic and 16,044 therapeutic) only goes to prove that all necessary measures had been taken to avoid this complication.

However, that was not the aim of our study. We were attempting to define the PSA features that allow successful PSA obliteration by applying compression dressings. We showed that a simple measurement of peak forward velocity in PSA neck, not exceeding 2.8 m/s, would be a favorable indication for compression PSA morphology. Although the success rate of compression dressing application was poor (25.8%), it may serve as a method of PSA treatment in particular groups of patients. It is important to remember that not only invasive or semi-invasive, but also conservative PSA management, may involve some complications. Spontaneous PSA thrombosis is likely in PSAs not exceeding 35 mm in length or 6 mL in volume. However, even small PSAs may progress and further complicate in rupture, infection, peripheral thrombosis, skin necrosis, vein and nerve compression [6, 7]. Complications of ultrasound-guided or blind PSA compression may include peripheral thrombosis, vein or nerve compression or rupture [8]. Ultrasound-guided thrombin injection, which I am personally enthusiastic about, may result in complications in terms of allergic reaction, peripheral thrombosis or limb loss [9, 10]. Surgical treatment may involve death (0.9–3.8%) or limb loss (0–3.7%), not to mention prolonged hospitalization, scarring, infection or neuropathies [11, 12]. In our study, the only complication occurring during compression application was PSA progression and rupture with subsequent surgical treatment, which affected three (4.8%) patients. We managed to avoid other complications such as skin necrosis or infection due to thorough periprocedural medical and nursing care, including reviewing the puncture site and vascular ultrasound every 12–24 hours.

In summarizing iatrogenic pseudoaneurysm management, I would like to quote from the Cochrane database: "The limited evidence base appears to support the use of thrombin injection as an effective treatment for femoral pseudoaneurysm. A pragmatic approach may be to use compression (blind or ultrasound-guided) as first-line treatment, reserving thrombin injection for those in whom the compression procedure fails." [13].

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