Indications for Duplex Sonography Should Be More Liberal

As readers might have the impression that the described algorithm corresponds to the procedure of choice, we would like to make the following comments:

Due to the persistently frequent femoral complications following transcatheter aortic valve implantation (TAVI) (1), an indication for duplex sonography should be made liberally. In the case of a pseudoaneurysm, using manual compression should be considered as a possibility. The chances of success depend on the correct puncture site and the presence of a narrow-necked aneurysm. These are smaller in obese patients or when vascular closure devices have been used. Thrombin should then be injected percutaneously (2). If this fails, an interventional procedure can be used, whereby the common femoral artery is blocked with a balloon at the level of the aneurysm through a contralateral approach. Thrombin is then injected percutaneously. If there is another complication besides the aneurysm, such as an arteriovenous (AV) shunt, the implantation of a self-expanding stent prosthesis should be discussed (3). Surgery should be used only in the very rare case that the treatment options outlined here are unsuitable (1).

References

PD Dr. med. habil. Daniel Kretzschmar
Prof. Dr. med. Marcus Franz
PD Dr. med. Sven Möbius-Winkler
Klinik für Innere Medizin I
Kardiologie, Angiologie, Intensivmedizin
Universitätsklinikum Jena, Jena, Germany
daniel.kretzschmar@med.uni-jena.de

In Reply:

Duplex sonography makes an important contribution to both the diagnosis and therapy of a pseudoaneurysm. Possible therapy options for treating pseudoaneurysms include both local compression using the ultrasound probe and ultrasound-guided injection of thrombin, with the latter showing higher success rates (1). On the other hand, clinical factors might be present that can reduce the chances of success of an ultrasound-guided thrombin injection or that primarily require an operative procedure. These can include an existing thrombopenia, the size of the pseudoaneurysm (> 2 cm), infected or ruptured pseudoaneurysms, and accompanying hematomas that rapidly increase in size, compress adjacent structures, or are associated with tissue necrosis (1–3). If a primarily surgical approach is used to treat pseudoaneurysms, however, it should be taken into account that surgical methods have resulted in higher rates of postoperative wound infections, wound dehiscence, and cardiopulmonary insufficiency. In addition, there is a mortality rate of around 4% following the surgical treatment of femoral pseudoaneurysms (3).

References

Dr. med. Philipp Jud
Klinische Abteilung für Angiologie, Universitätsklinik für Innere Medizin der Medizinischen Universität Graz, Austria
philipp.jud@medunigraz.at

Dr. med. Martin Eibisberger
Klinische Abteilung für Neuroradiologie, vaskuläre und interventionelle Radiologie, Universitätsklinik für Innere Medizin der Medizinischen Universität Graz, Austria

Conflict of interest statement
The authors of the contributions declare that no conflict of interest exists.