

The Use of Balloon-Expandable Covered Stent Grafts for Endovascular Control of Arterial Bleeding

Christina Papadopoulou 

Department of Cardiothoracic and Vascular Surgery, Faculty of Medicine and Health, Örebro University Hospital and Örebro University, Örebro, Sweden

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Covered stent grafts are increasingly used for endovascular control of traumatic and iatrogenic access-related arterial bleeding, such as those of the common femoral and external iliac arteries [1].

Both self-expanding and balloon-expandable covered stent grafts are used. In clinical practice, self-expanding stent grafts are often preferred in junctional or mobile arterial segments, such as the groin, where there is risk of stent graft collapse.

In hemodynamically unstable patients, vessel diameter might be difficult to assess because of hypotension, vasospasm or ongoing hemorrhage. Balloon-expandable covered stent grafts provide controlled, stepwise expansion with precise deployment and adaptation to the actual vessel caliber. This facilitates rapid sealing when landing zones are short, close to the inguinal ligament or branch vessels, and even in tapered anatomy at the iliac–femoral transition, and thereby faster bleeding control [2].

Figure 1 demonstrates active arterial extravasation from the right common femoral artery. Vessel diameter was estimated using measurements obtained from prior computed tomography imaging. A BeGraft covered stent

graft was then deployed with progressive balloon inflation, enabling sizing adjustments. Successful bleeding control was achieved (Figure 2) and at the one-month clinical follow-up, limb perfusion was preserved. This

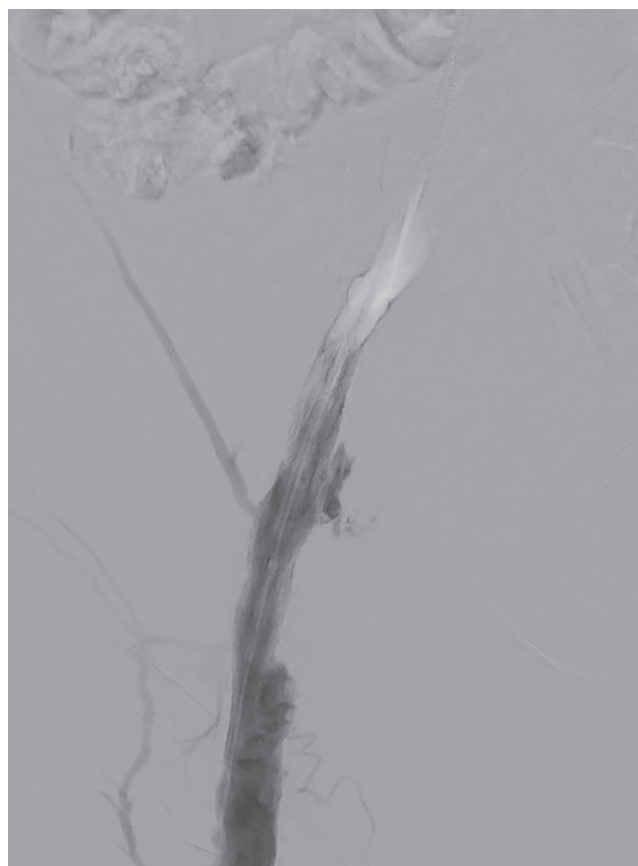


Figure 1 Digital subtraction angiography demonstrating contrast extravasation from the right common femoral artery.

Corresponding author:

Christina Papadopoulou, Department of Cardiothoracic and Vascular Surgery, Örebro University Hospital, SE-701 85 Örebro, Sweden.

Email: christina.papadopoulou@regionorebrolan.se

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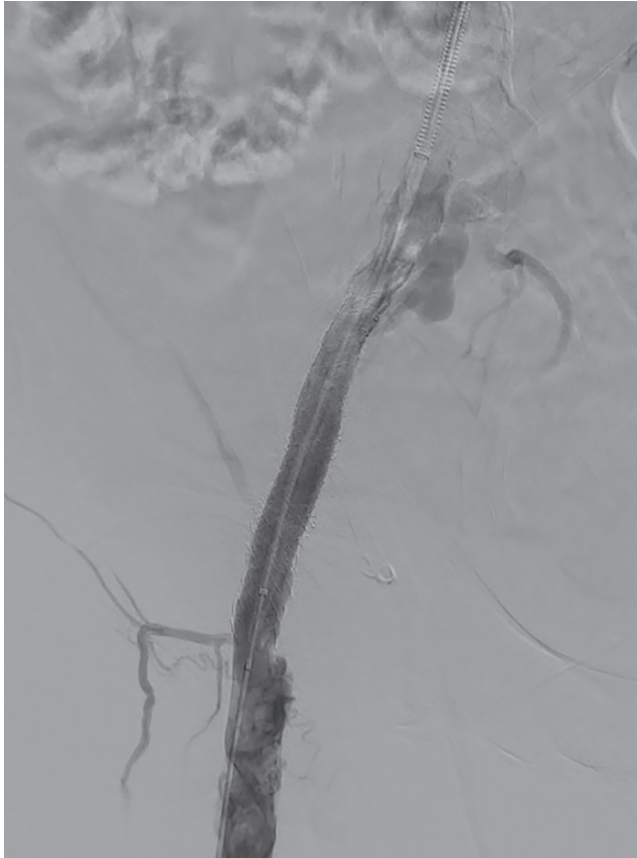


Figure 2 Digital subtraction angiography showing bleeding control following the deployment of a BeGraft covered stent graft.

case illustrates a typical EndoVascular Resuscitation and Trauma Management (EVTM) scenario in which device choice is guided by anatomical and procedural considerations rather than a generalized preference for a specific stent type [3].

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Ethics Statement

Ethical approval was not required because this article describes an anonymized clinical image and does not report research involving human participants. All

identifying information has been removed in accordance with institutional and journal policies.

Conflicts of Interest

The author declares that they have no conflicts of interest.

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Author Contributions

Christina Papadopoulou drafted the manuscript.

Data Availability

The data are not publicly available due to privacy or ethical restrictions but may be available from the corresponding author subject to institutional approval.

Declaration of the Use of Generative AI in the Writing Process

No generative AI or AI-assisted technologies were used during the writing process of this manuscript.

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