Analysis of Infection Risk Following Covered Stent Exclusion of Pseudoaneurysms in Prosthetic Arteriovenous Hemodialysis Access Grafts

Conclusion: Covered stent exclusion of intragraft直径交流 graft pseudoaneurysms is correlated with a high rate of eventual graft infection.

Summary: Prosthetic arteriovenous (AV) grafts are prone to develop pseudoaneurysms that are thought related to graft material degeneration secondary to repeated punctures. Such pseudoaneurysms may be particularly prone to develop infection in the face of outflow obstruction. Endovascular treatment can be used to treat prosthetic AV graft pseudoaneurysms with reports of high technical success and acceptable patency rates (Vesely TM, J Vasc Inter Radiol 2005;16:1301-7; Najibi S et al, J Surg Res 2002;106:15-19). However, the authors of this report indicated an anecdotal impression that incorporating this technique into their practice resulted in a higher incidence of prosthetic AV graft infection. They therefore sought to study whether stent graft treatment of prosthetic AV graft pseudoaneurysms influenced the incidence of AV graft infection. When covered stents were used to treat intragraft pseudoaneurysms, the subsequent rate of graft infection increased compared with bare-metal stents (42.1% vs 24.6%; P = .001). When stents were deployed at an intragraft location, there was a higher incidence of graft infection compared with those deployed at a venous anastomosis or in an outflow vein (26.9% vs 6.9%, P < .001).

Comment: Pseudoaneurysms of prosthetic dialysis grafts are usually associated with a history of repeated punctures at the site where the pseudoaneurysm developed. More punctures in a specific site will likely increase the risk of contamination, and the more the risk of contamination the more the risk of infected grafts. In follow-up, as shown above, that placing an additional prosthesis under such circumstances is not likely to have favorable outcomes.

Cognition After Carotid Endarterectomy or Stenting: A Randomized Comparison

Conclusion: Despite a substantially higher rate of new ischemic lesions after carotid artery stenting (CAS) compared with carotid endarterectomy (CEA), changes in cognition after CAS or CEA are not statistically significant.

Summary: Diffusion-weighted (DWI) magnetic resonance imaging (MRI) shows there is a three times incidence of new ischemic lesions after CAS compared with CEA (Schnaudigel S et al, Stroke 2008;39:1911-9). In elderly people, free of dementia and baseline stroke, “silent” infarcts more than double the risk of dementia and are related to a steeper decline in cognitive function (Vermeer SE et al, N Engl J Med 2003;348:1301-7; Najibi S et al, J Vasc Surg 2002;36:15-19). The authors reviewed their interventional radiology database for prosthetic AV graft interventions involving stent deployment anywhere within the AV graft and found 235 interventions in 174 patients between November 2004 and December 2008. The incidence of AV graft infection was analyzed by stent type (bare metal vs coated), location, and indication for stent deployment on a per-stent, per-procedure, and per-graft basis. Eventually, 16.3% of AV grafts with stents implanted required surgical excision for graft infection. When covered stents were used to treat intragraft pseudoaneurysms, the subsequent rate of graft infection increased compared with bare-metal stents or covered stents deployed within the graft for other reasons (42.1% vs 18.2%, P = .011). When stents were deployed at an intragraft location, there was a higher incidence of graft infection compared with those deployed at a venous anastomosis or in an outflow vein (26.9% vs 6.9%, P < .001).

Comment: Pseudoaneurysms of prosthetic dialysis grafts are usually associated with a history of repeated punctures at the site where the pseudoaneurysm developed. More punctures in a specific site will likely increase the risk of contamination, and the more the risk of contamination the more the risk of infected grafts. In follow-up, as shown above, that placing an additional prosthesis under such circumstances is not likely to have favorable outcomes.

Abstracts
Gregory L. Moneta, MD, Section Editor

Analysis of Infection Risk Following Covered Stent Exclusion of Pseudoaneurysms in Prosthetic Arteriovenous Hemodialysis Access Grafts

Conclusion: Covered stent exclusion of intragraft diameter exchange access graft pseudoaneurysms is correlated with a high rate of eventual graft infection.

Summary: Prosthetic arteriovenous (AV) grafts are prone to develop pseudoaneurysms that are thought related to graft material degeneration secondary to repeated punctures. Such pseudoaneurysms may be particularly prone to develop infection in the face of outflow obstruction. Endovascular treatment can be used to treat prosthetic AV graft pseudoaneurysms with reports of high technical success and acceptable patency rates (Vesely TM, J Vasc Inter Radiol 2005;16:1301-7; Najibi S et al, J Surg Res 2002;106:15-19). However, the authors of this report indicated an anecdotal impression that incorporating this technique into their practice resulted in a higher incidence of prosthetic AV graft infection. They therefore sought to study whether stent graft treatment of prosthetic AV graft pseudoaneurysms influenced the incidence of AV graft infection. When covered stents were used to treat intragraft pseudoaneurysms, the subsequent rate of graft infection increased compared with bare-metal stents (42.1% vs 24.6%; P = .001). When stents were deployed at an intragraft location, there was a higher incidence of graft infection compared with those deployed at a venous anastomosis or in an outflow vein (26.9% vs 6.9%, P < .001).

Comment: Pseudoaneurysms of prosthetic dialysis grafts are usually associated with a history of repeated punctures at the site where the pseudoaneurysm developed. More punctures in a specific site will likely increase the risk of contamination, and the more the risk of contamination the more the risk of infected grafts. In follow-up, as shown above, that placing an additional prosthesis under such circumstances is not likely to have favorable outcomes.