INVITED COMMENTARY

Response to commentary on ‘Angiosarcoma as a Potential Consequence of Autologous Lymph Node Transplantation for Lymphoedema’

Authors reported the occurrence of angiosarcoma in a patient with lower limb primary lymphoedema. Two ALNT were performed 7 and 14 years before angiosarcoma onset. Angiosarcoma may occur in patient with primary lymphoedema.1–3 It is possible that angiosarcoma is fortuitous and not related to previous ALNT.

REFERENCES

INVITED COMMENTARY

Commentary regarding “A Multicentric Experience with Open Surgical Repair and Endovascular Exclusion of Popliteal Artery Aneurysms”

Although popliteal artery aneurysms (PAA) are the most common peripheral arterial aneurysms, their incidence is low, making meaningful observations from single center series almost impossible due to variations in presentation and anatomic features. Therefore, retrospective multicenter registry studies combining the experiences of several centers, as was performed by Pulli et al.1 have been conducted in an attempt to identify the optimal treatment options, especially after the adoption of endovascular popliteal artery aneurysm repairs (EVPAR). The disadvantage of such studies includes the lack of a standardised protocol for data collection.

Despite the relatively low frequency of PAA, the optimal treatment requires highly individualized treatment planning, and is determined by the mode of presentation (acute vs. nonacute, severity of ischemia, symptomatic vs. asymptomatic), medical condition, functional capacity and activity level of the patient, as well as anatomic characteristics (condition of the runoff vessels in the acute and chronic setting, proximal and distal extent of the aneurysm). Pulli et al. did not make any direct comparisons between endovascular or open treated patients as they were significantly different from clinical and anatomic aspects, and their overall outcomes were excellent. The patients treated with open repair in this series were more likely to present with acute limb ischemia (ALI), including patients with the most severe (Rutherford grade 2b) ischemia, or other chronic symptoms. Unfortunately, they did not present their patency data separately in patients who presented acutely from those who were treated electively, making it harder to evaluate the outcomes following open repair and EVPAR.

Patients with PAA with ALI are particularly challenging. In a systematic review of the literature between 1990 and 2008 (895 patients with ALI, Kropman et al.) there was a 14.1% amputation rate and no significant difference in amputation rates with or without thrombolysis before surgery. The authors of the current study have previously reported better outcomes following successful thrombolysis,3 but patients with more severe ischemia are typically subjected to open repair. Thrombolysis was used only in patients who presented with grade I or IIa ischemia in the current study, which is generally the recommended approach. However, with the increased availability of hybrid rooms, and familiarity of surgeons with new thrombectomy devices (e.g. rheolytic thrombectomy), accelerated thrombolysis (e.g. power pulse thrombolysis, US-assisted thrombolysis), endovascular recanalization using a combination of these techniques with early exclusion of the thrombosis with covered stents followed by “toilet” thrombolysis is increasingly used, even in patients with advanced ischemia. This approach can re-establish blood flow to the extremity faster than a surgical approach, especially in those with no target vessels on the initial angiogram.

Due to the risk of secondary embolism being catastrophic in patients with thrombolysis, primary bypass is preferred as the initial treatment in patients with a patent artery to the foot, especially in patients with good autologous vein. Aulivola et al.4 reported comparable outcomes in patients with emergent and nonemergent presentations, using aggressive surgical bypass in patients with distal target vessels, and utilizing thrombolysis only in those without any identifiable target vessels. Thrombolysis is still used by many due to reports suggesting that it improves runoff vessels, while others suggest that it should be reserved for patients whose clot extends to the trifurcation vessels, with primary bypass for those with clot that is confined to the popliteal artery, as one has nothing to gain, but potentially much to lose if embolization occurs.5

The current report is no exception in reporting the best outcomes following surgical repair using autologous grafts, (mainly GSV), with a 48 month primary patency (PP) rate of
86%, compared to 56% in those who had repair using prosthetic grafts and 73% for those who had EVPAR. The authors also report that prosthetic repair using the posterior approach performed better than the medial approach. This observation supports excellent published outcomes following posterior repair, although this approach cannot be used in patients with aneurysms extending to the adductor canal, or trifurcation vessels. In practical terms, in patients presenting with elective PAA, the availability of the GSV and/or feasibility of the posterior approach should be important determinants when deciding between open and EVPAR repair.

The authors' reported PP and secondary patency (SP) of 73% and 85% at 48 months with EVPAR with dual antiplatelet therapy, and this corresponds to the improving patency rates in the literature with increased experience, routine use of clopidogrel, and better endografts. Tielliu et al. reported that the 5-year PP increased to 80% in the latter part of their study. In a modern series of patients with symptomatic, nonacute PAA, Idelchik et al. reported 88% and 97% PP and SP rates at 3 years in 29 patients (33 limbs). Garg et al. reported 86% and 91% PP and SP at 2 years, and 78% and 91% at 4 years in 26 limbs (38% symptomatic), with no limb loss. A review by these authors showed a one-year PP of 80—100% in series reported after 2005.

The authors suggest that they are increasingly using EVPAR in patients with single vessel runoff. This contradicts their own finding of poorer runoff independently predicting poorer PP. Most authors report poorer outcomes in patients with poor runoff (0–1 vessel runoff), with reasonable mid-term (even longer term) patency rates with EVPAR in those with 2–3 vessel runoff and lifelong use of clopidogrel. Another observation in the current report is the relatively high acute occlusion rates in patients who had elective EVPAR compared to those who had open repair (9.8% vs. 1.5%). This parallels a previous meta-analysis of 3 studies including 141 patients (37 endovascular; 104 open) by Lovegrove et al. reporting increased 30-day graft thrombosis and reintervention rates following EVPAR.

Due to its less invasiveness (decreased less length of stay (LOS)) and morbidity, coupled with improved outcomes in recent years, EVPAR is increasingly being used in good risk patients with suitable GSV. One important feature that should be considered before determining the type of repair is the patients’ daily activities involving prolonged bending of the knee (such as gardening). It is not uncommon to have a patient present with an occluded popliteal endograft following “gardening”, and who is found to have no identifiable abnormalities following thrombolysis. The frequency of stent fractures (16.7%), seen mostly in younger patients, also suggests that the more active the individual, the more likely that there will be greater strain on the stents.

The optimal treatment for patients who need non-emergent EVPAR remains to be determined. In my opinion, the only subgroup of patients in whom a true clinical equipoise exists for a large randomized trial are good medical risk patients who do not have acute limb ischemia, have 2–3 vessel runoff, who are willing to take lifelong clopidogrel, be constantly attentive to not performing activities involving prolonged bending of the knees, who also have good veins, and are candidates for an in-line posterior repair. Considering the small number of patients with popliteal aneurysms, it is not a realistic expectation to expect such a randomized trial to be performed with adequate power, and therefore patients fitting the above criteria should be very well informed of the risks and benefits of each treatment modality before proceeding with repair. All patients with ALI will continue to be treated in a highly individualized manner, based not only on clinical, anatomic and patient factors, but also on the experience and availability of the surgeon or surgeon/interventionist teams who are competent in all modalities for optimal outcomes.

REFERENCES
