Peer Review File

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Comment 1: The focus of this review is very much on practice and guidelines within North America. Unfortunately, the USA has some of the lowest rates of surgical VA use in the developed world and it would be helpful for the reader to have a perspective on other countries' practices and guidelines. The outcomes in other nations (eg Japan) would suggest a more effective professional culture in VA.

Reply 1: Yes, our paper is based on US practice and guidelines. We couldn't include outcomes from other nations given the different healthcare systems and patient heterogeneity.

Comment 2: Page 9: the claim that DUS is less reliable than venography is likely correct but should be linked to a reference to support the statement.

Reply 2: Added.

Comment 3: Page 11: again, the 'often neglected ulnar-basilic' statement requires a qualifying reference. Ditto the statement that maturing veins should dilate by 30-50% at 4 weeks (according to whom?)

Reply 3: Added! Text edited to align with the current fistula maturation criteria from KDOQI Clinical Practice Guideline for Vascular Access: 2019 Update.

Changes in the text: "*veins that will mature should have a minimum diameter of 5-6 mm and a flow volume of > 500 mL/min*"

Comment 4: On a wider point regarding early surveillance as discussed at this point, best evidence would suggest that surveillance leads to greater fistula interventions without a significant impact on overall patency. The paragraph at the end of page 11 / start of page 12 suggests a strategy which is both subject to debate and not referenced fully.

Reply 4: The sentence was edited and references were added.

Changes in the text: "*The recent KDOQI guidelines (27) are non-dispositive regarding the clinical effectiveness of surveillance following VA creation instead taking this thoughtful approach. Clinical surveillance with physical examination and circuit performance metrics is appropriate in all patients and likely to have greater clinical benefit for autogenous reconstructions. Serial ultrasonographic surveillance has an unclear role and prophylactic interventions based upon any positive finding-when performed in the absence of clinical symptoms-likely has no benefit."*

Comment 5: The preference for two stage vein transposition (Page 12) is subjective and uses an outdated observational study to justify its approach. More recent RCTs and Meta-analyses suggest no difference in single vs two-stage approaches. While the authors could well state and justify their preference, reference should be made to the equipoise in the evidence.

Reply 5: Agree, determining the best approach requires a large, prospective, randomized and controlled multi-institutional research investigation, which is not currently available. We edited the text and added a table that includes selected papers comparing single stage vs. two-stage approaches.

Changes in the text: *"However, despite our preference for the two-stage approach, the current literature is still controversial and largely comprised of single-center observational experiences (Table I). A large, prospective, randomized and controlled multi-institutional research investigation is necessary to compare outcomes with various approaches."*

Comment 6: Page 13, second paragraph. Sweeping statements with no references. Who are the proponents and opponents and where have they made such statements?

Reply 6: The paragraph was removed.

Comment 7: Page 13, third paragraph: the reference given does not seem to relate to the statement made.

Reply 7: Corrected!

Comment 8: Page 15: What evidence is there that the Brescia cimino fistula is the gold standard?

Reply 8: The brescia cimino fistula is the historical gold standard to which all other fistulas are compared despite the prevailing published literature documents non-maturation patency rates of 30-50%.

Changes in the text: "*The radial artery to cephalic vein (brescia cimino) reconstruction has traditionally been the first site for VA consideration (40). High rates of nonmaturation approaching 50% have been reported with this configuration theoretically owing to pre-existing vein sclerosis (40)"*

Comment 9: Are the authors advocating a side-to-side anastomosis as per the original description?

Reply 9: No

Comment 10: Page 16: second paragraph: references missing. Particularly regarding the use of xenografts and allografts

Reply 10: Added!

Comment 11: Page 18: complications of VA should not be discussed in the section regarding surveillance.

Reply 11: Removed!

Comment 12: Finally, a summary or conclusion statement would close the review well. It ends rather abruptly.

Reply 12: Added!

Comment 13: Please consider including information on endovascular advances (surfacer, hero, endo avf etc) as well as a brief description of early cannulation grafts.

Reply 13: The mentioned topics have been discussed in another article of this invited special series.