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LETTER TO THE EDITOR

Confirmation of no Common Femoral Artery Stenosis Following Percutaneous EVAR

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We thank White et al. [1] for their comments on the findings of our paper [2], demonstrating the long-term outcomes of percutaneous EVAR. Given the aims of the study, we believe the design of comparing two time points post-intervention (30 days and longest follow-up scan) was best suited to investigate the long-term evolution of accessed groins. White et al.'s comments that the review of pre-procedure scans would be helpful to their understanding. We had previously taken the view that suture-mediated closure devices had established data on their short-term safety and efficacy and had not set about confirming this. However, to further inform readers we have since analysed changes at these three time points—pre-procedure, 30 days post-procedure (short term) and latest follow-up scan (long term). As per our original study [2], paired *T* test and Wilcoxon matched pairs signed-rank test was used to assess the significance of changes in vessel diameter and calcification, respectively.

Results

Vessel Diameter

Pre-procedure mean diameter was 10.2 ± 2.1 mm. This compares to a first post-procedure (30 days) mean diameter of 10.5 ± 1.7 mm, and the latest follow-up scan diameter of 10.9 ± 2.1 mm.

There was a significant difference ($p < 0.05$) in the vessel diameter between each time point—pre-procedure, 30 days post-procedure and the latest follow-up scan. Mean difference between pre-procedure and 30 days is 0.30 ± 1.30 mm [95% confidence interval (CI) of 0.54–0.07]. Mean difference between pre-procedure and the latest scan is 0.72 ± 2.02 mm (95% CI 0.36–1.10). We have already previously demonstrated a significant ($p < 0.05$) mean difference between 30 days scan and the latest follow-up scan of 0.42 mm (95% CI 0.79–0.06).

Vessel Calcification

At the pre-procedure scan, 15 (12.3%) groins showed no calcification, 71 (58.2%) mild posterior wall calcification, 21 (17.2%) moderate posterior calcification, and 14 (11.5%) severe posterior or anterior wall calcification.

We have already reported that at the first post-procedure scan, 15 (12.3%) groins showed no calcification, 74 (60.7%) mild posterior wall calcification, 19 (15.6%) moderate posterior calcification, and 14 (11.5%) showed severe posterior or anterior wall calcification [2]. At the latest follow-up scan, 3 (2.5%) groins showed no calcification, 67 (54.9%) mild posterior calcification, 22 (18%) moderate posterior calcification, and 30 (24.6%) severe posterior or anterior calcification.

There is a significant difference in the extent of calcification between the pre-procedure and latest scan ($p < 0.05$), and as previously demonstrated, between the 30 days scan and the latest scan ($p < 0.05$). However, there is no significant difference between the pre-procedure and the 30 days scan ($p = 0.31$).

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Discussion

Reanalysis of data comparing the latest scan with pre-procedure scan results in identical findings to our initial study comparing the latest scan with the 30 days post-procedure scan. There is a statistically significant, but clinically insignificant, dilatation of vessels, suggesting no stenotic process. Our theory that the apparent long-term increase in calcification in this cohort of patients is likely secondary to the underlying atherosclerotic disease process is further backed by these new findings, as there is no significant difference in the extent of calcification in the short time period between pre-procedure and 30 days post-procedure scans. The extent of calcification only increases over a longer time frame, such as over our mean follow-up of 49.9 months.

Conclusion

Further study and analysis of pre-procedure scans further corroborate our initial findings. Accessed vessels (common femoral arteries) do not show evidence of stenosis following percutaneous EVAR, and there is an increase in calcification only over the long term follow-up term.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. As the study is a retrospective study, for this type of study formal consent is not required.

Informed Consent For this type of study, informed consent is not required. The study proposal was reviewed by the Clinical Research Office of the Trust and was confirmed as NHS REC exempt.

Consent for Publication For this type of study, consent for publication is not required.

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