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Emergency Endovascular Aneurysm Repair and Pre-Operative Antibiotics for Infected Aortic Aneurysms

In Touma *et al.*'s recent report, emergency endovascular aneurysm repair (EVAR) for infected native aortic aneurysms (INAAAs) led to infection related complications (IRCs) in five of six patients (83%) at a median of seven days, necessitating conversion to open surgery.¹ This rate is higher than reported in a recent systematic review and meta-analysis by the present authors (14% in total, EVAR 2.4 times higher risk)² or in another recent review (8%, open repair; 23%, EVAR).³ Their experience highlights the potential inability to control infection using temporising emergency EVAR. Moreover, this leads us to ask what were the IRCs between those able to be treated electively after pre-operative antibiotics (e.g., at least two weeks) and those less optimally (e.g., urgent or less than two weeks) undergoing open surgical repair ($n = 64$)? This may further suggest proper use of pre-operative antibiotics in INAAAs, particularly as pathogens were only identified in 43% pre-operatively. IRCs were only 10% in open repair, yet local septic control methods were not fully described with omentoplasty noted in only 27%. Were other methods used? Realising direct comparison of specific interventional roles is difficult, we thank the authors for sharing their extensive experience.

REFERENCES

- 1 Touma J, Couture T, Davaine JM, de Boissieu P, Oubaya N, Michel C, et al. Mycotic/infective native aortic aneurysms: results after preferential use of open surgery and arterial allografts. *Eur J Vasc Endovasc Surg* 2021. doi: [10.1016/j.ejvs.2021.10.041](https://doi.org/10.1016/j.ejvs.2021.10.041) [Epub ahead of print].
- 2 Shirasu T, Kuno T, Yasuhara J, Yokoyama Y, Takagi H, Cullen MJ, et al. Recurrent infection is more common after endovascular versus open repair of infected abdominal aortic aneurysm: systematic review and meta-analysis. *J Vasc Surg* 2022;75:348–55.
- 3 Han M, Wang J, Zhao J, Ma Y, Huang B, Yuan D, et al. Systematic review and meta-analysis of outcomes following endovascular and open repair for infective native aortic aneurysms. *Ann Vasc Surg* 2021. doi: [10.1016/j.avsg.2021.07.025](https://doi.org/10.1016/j.avsg.2021.07.025) [Epub ahead of print].

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Decreased Angiogenesis in Diabetes: New Insights into the Mechanisms Involved in the Negative Association Between Diabetes and Abdominal Aortic Aneurysm

Guo *et al.*¹ recently investigated the role of a key regulator of intracellular hypoxia inducible factor 1 (HIF-1) in the reduced angiogenesis associated with diabetes in abdominal aortic aneurysm (AAA). Using an elastase model and streptozotocin induced diabetes, they showed that decreased AAA formation observed in diabetic mice may be due to dysregulated HIF-1 α mediated angiogenesis.¹ The translational relevance remains to be investigated. Although diabetes may protect against AAA, the effect is only partial as diabetic patients still develop the disease. The mechanisms involved are multifactorial and are linked to diabetes itself, as well as antidiabetic drugs.^{2,3} Streptozotocin is an experimental model of type 1 diabetes and may not be representative of human disease as type 2 diabetes accounts for 90% of diabetic patients.² Finally, the investigators explored HIF-1 α expression in aneurysmal aortic tissue of patients, but the small sample size ($n = 2$) does not allow robust conclusions to be drawn.¹ This study brings perspectives to the use anti-angiogenesis therapy, but further studies are required before testing it in patients with AAAs.

REFERENCES

- 1 Guo J, Shoji T, Ge Y, Zheng X, Li Y, Zhao S, et al. Treatment with the prolyl hydroxylase inhibitor JNJ promotes abdominal aortic aneurysm progression in diabetic mice. *Eur J Vasc Endovasc Surg* 2021. doi: [10.1016/j.ejvs.2021.10.030](https://doi.org/10.1016/j.ejvs.2021.10.030) [Epub ahead of print].
- 2 Raffort J, Lareyre F, Clement M, Hassen-Khodja R, Chinetti G, Mallat Z. Diabetes and aortic aneurysm: current state of the art. *Cardiovasc Res* 2018;114:1702–13.
- 3 Thanigaimani S, Singh TP, Unosson J, Phie J, Moxon J, Wanhainen A, et al. Editor's Choice – Association between metformin prescription and abdominal aortic aneurysm growth and clinical events: a systematic review and meta-analysis. *Eur J Vasc Endovasc Surg* 2021;62:747–56.

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