

EDITORIAL

“Endoleak”: Time for a change?

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Endovascular treatment of different aortic pathologies has reached an advanced level of maturity that has made it an equivalent if not superior competitor to open surgical repair in many aortic territories. Currently, endovascular treatment has become the standard of care in almost all aortic zones; however, in ascending aorta and aortic arch, endovascular treatment is yet considered an alternative treatment to open repair when anatomy is favourable and in selected patients.¹⁻³

Almost thirty years ago, White and colleagues⁽⁴⁾ came up with the term “endoleak” which describes the persistent perfusion of the aortic sac during and/or after endovascular aneurysm repair (EVAR). It was later subdivided according to different etiologies and consequently, helped understand the different treatment strategies.⁵ The terminology has helped spread the understanding of the described behaviour among treating physicians, radiologists, medical students, and patients.

Type II endoleak has been the most encountered complication and endoleak for patients undergoing EVAR.^{6,7} Mulay et al found no difference in overall survival among patients with and without type II endoleak who underwent EVAR for infrarenal abdominal aortic aneurysm. Additionally, there was no better survival for those who underwent secondary intervention.⁷ Furthermore, most of these endoleaks resolve spontaneously and require no treatment.⁸ Recent ESVS guidelines have not yet recommended routine embolization of the lumbar or inferior mesenteric artery before the EVAR procedure.³ Altogether, this has made endoleak type II resemble a radiological finding rather than a clinical significance that needs serious attention.

Many radiologists and treating physicians have described the “endoleak” terminology as stressful and panicking. Medical practitioners are often disappointed when reviewing radiology reports before checking upon computed tomography (CT) scans. Patients become disheartened upon hearing or reading the word from their corresponding radiologists or physicians. The term sounds like a failure of treatment rather

than merely a persistent perfusion of the aortic sac. It becomes more stressful when patients who are known to have endoleak are offered conservative treatment in the form of follow-up.

The widely used nomenclature has held its position for decades for its simplicity in expressing the radiological behaviour of the underlying persistent perfusion of the aortic sac easily and accurately to different personnel. Moreover, it is used exclusively for endovascular procedures.

After years of practice, the term seems like it has fulfilled its purpose and requires an update. A different terminology is needed that conveys the same meaning: persistent perfusion of the aortic sac following an endovascular procedure. Therefore, I suggest that a change to the term “endosac” can offer an improved meaning and enhanced clarity in describing the remaining aortic sac perfusion after EVAR. The term “endosac” encapsulates the essence of the process while providing a more succinct and contemporary representation, aligning with the advancements in medical language and facilitating better communication among healthcare professionals and patients.

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REFERENCES

- 1 Muettterties CE, Menon R, Wheatley GH 3rd. A systematic review of primary endovascular repair of the ascending aorta. *J Vasc Surg.* 2018 Jan;67(1):332-342. doi: 10.1016/j.jvs.2017.06.099. Epub 2017 Aug 23. PMID: 28844469.
- 2 Czerny M, Schmidli J, Adler S, van den Berg JC, Bertoglio L, Carrel T, Chiesa R, Clough RE, Eberle B, Etz C, Grabenwöger M, Haulon S, Jakob H, Kari FA, Mestres CA, Pacini D, Resch T, Rylski B, Schoenhoff F, Shrestha M, von Tengg-Koblick H, Tzagakis K, Wyss TR; EACTS/ESVS scientific document group. Current options and recommendations for the treatment of thoracic aortic pathologies involving the aortic arch: an expert consensus document of the European Association for Cardio-Thoracic surgery (EACTS) and the European Society for Vascular Surgery (ESVS).

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- Eur J Cardiothorac Surg. 2019 Jan 1;55(1):133-162. doi: 10.1093/ejcts/ezy313. PMID: 30312382.
- 3 Wanhainen A, Van Herzele I, Bastos Goncalves F, Bellmunt Montoya S, Berard X, Boyle JR, D'Oria M, Prendes CF, Karkos CD, Kazimierczak A, Koelemay MJW, Kölbel T, Mani K, Melissano G, Powell JT, Trimarchi S, Tsilimparis N; ESVS Guidelines Committee; Antoniou GA, Björck M, Coscas R, Dias NV, Kolh P, Lepidi S, Mees BME, Resch TA, Ricco JB, Tulamo R, Twine CP; Document Reviewers; Branzan D, Cheng SWK, Dalman RL, Dick F, Golledge J, Haulon S, van Herwaarden JA, Illic NS, Jawien A, Mastracci TM, Oderich GS, Verzini F, Yeung KK. Editor's Choice -- European Society for Vascular Surgery (ESVS) 2024 Clinical Practice Guidelines on the Management of Abdominal Aorto-Iliac Artery Aneurysms. Eur J Vasc Endovasc Surg. 2024 Feb;67(2):192-331. doi: 10.1016/j.ejvs.2023.11.002. Epub 2024 Jan 23. PMID: 38307694.
 - 4 White GH, Yu W, May J. Endoleak--a proposed new terminology to describe incomplete aneurysm exclusion by an endoluminal graft. J Endovasc Surg. 1996 Feb;3(1):124-5. doi: 10.1583/1074-6218(1996)003<0124b>2.0.CO;2. PMID: 8991758.
 - 5 White GH, Yu W, May J, Chaufour X, Stephen MS. Endoleak as a complication of endoluminal grafting of abdominal aortic aneurysms: classification, incidence, diagnosis, and management. J Endovasc Surg. 1997 May;4(2):152-68. doi: 10.1177/152660289700400207. PMID: 9185003.
 - 6 Kuijpers M, Holewijn S, Blankensteijn JD, Reijnen MMPJ. Prevalence of type II endoleak after elective endovascular aneurysm repair with polytetrafluoroethylene- or polyester-based endografts. J Vasc Surg. 2024 Jan;79(1):24-33. doi: 10.1016/j.jvs.2023.09.019. Epub 2023 Sep 19. PMID: 37734570.
 - 7 Mulay S, Geraedts ACM, Koelemay MJW, Balm R; ODYSSEUS study group. Type 2 Endoleak With or Without Intervention and Survival After Endovascular Aneurysm Repair. Eur J Vasc Endovasc Surg. 2021 May;61(5):779-786. doi: 10.1016/j.ejvs.2021.01.017. Epub 2021 Feb 23. PMID: 33632609.
 - 8 Charisis N, Bouris V, Conway AM, Labropoulos N. A Systematic Review and Pooled Meta-Analysis on the Incidence and Temporal Occurrence of Type II Endoleak Following an Abdominal Aortic Aneurysm Repair. Ann Vasc Surg. 2021 Aug;75:406-419. doi: 10.1016/j.avsg.2021.01.083. Epub 2021 Feb 4. PMID: 33549794.