Invited Commentary

Comments regarding “The Wonders of New Available Post-Analysis CT Software in the Hands of Vascular Surgeons”

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The authors of this manuscript present a case where an endoleak was detected in a growing aneurysm sac, after endovascular aneurysm repair. This was presumed to be a type-II EL, and it was not until reconstructions with open source post-processing software were made that they discovered device failure as the origin of the endoleak.

This case report clearly underlines the added value of reconstruction software, as it altered the diagnosis from a type II endoleak — the optimal management of which is still debatable — to a type III endoleak, which constitutes a serious and threatening complication requiring expeditious intervention.

Although the value of using post-processing software to improve insight in the anatomy and to provide more accurate diameter and length measurements is undisputable, advocating the wide use of OsiriX open-source version has some important pitfalls not highlighted by the authors. First of all, this has not been approved for primary clinical use to our knowledge. This may pose serious ethical and medicolegal issues. Fortunately, there are several commercially available FDA approved alternatives, including OsiriX MD.1 Second, before adopting reconstruction software in clinical practice, education in post-processing is paramount, as deficient use of these tools may result in misleading information and generate errors in patient management.

Apart from the arguments in favor of reconstruction software, the clinical case that was presented also provided some food for thought. The final diagnosis was graft failure as a result of graft material discontinuity in the main body, although no cause of this could be traced. This finding is worrying, especially since the implantation was only sixteen months before. Mandatory reporting of graft failures should be part of standard care to improve overall quality.

Last but not least, this case emphasizes that finding a type II endoleak in a patient with a growing aneurysm should never preclude the search for an alternative, more serious cause for growth. It is of utmost importance to make sure that growth is not caused by a type I a/b or III endoleak. Assuring a generous proximal and distal seal is key in this. Furthermore, contrast-enhanced magnetic resonance using a blood pool agent can help identifying the cause of growth as well, as it has demonstrated that many growing aneurysms without detectable endoleaks on CTA may actually have occult endoleaks.2 Only if one is convinced that no other cause than type II endoleak is present, conservative treatment may be advisable.

References