Endovascular treatment of an early EVAR complication: the role of the images

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Faculty disclosure

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I disclose the following financial relationships:

I have no financial relationships to disclose.
A 83-year-old woman was admitted to our institution for a volumetric expansion of the aneurysm sac due to a suspected type II endoleak detected during a regular CT-Angio follow-up.
Clinical History
She underwent EVAR (in other Institution) for 5.4 cm AAA 16-months before using *E-Vita stent-graft* by Jotec Inc (30x18x150mm + 16x18x70mm).
She remained asymptomatic and the 6-months CT-angio showed the good exclusion of the sac associated with a decrease in the diameter of 1.1 cm. The following CT-angio revealed a 2 cm sac enlargement (maximum diameter 6.4 cm) due to a suspected type II endoleak.
Clinical History

The CT-angiography reconstruction was performed with Osirix by a 3D volume-rendering and a Multi-Planar Reconstruction.
Post-analysis images showed the likely presence of a hole at the distal portion of the main body.
Horus’ eye
Horus’ eye
Horus’ eye
Horus’ eye
Preoperative angiogram confirmed the diagnosis, therefore Endurant stent graft limb 20x20x80mm was placed to cover the graft’s hole with good result.
As we know, the long-term durability of EVAR remains a concern and the possibility of the comparison of an adverse event related to endograft migration, endoleak, or endograft failure requires lifelong surveillance.
Nowadays, a very interesting alternative to dedicated workstations is available: it is a software called OsiriX.
This interactive navigation program allows rendering and analysis of several different medical imaging modalities.

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Horus’ eye

It runs on a regular Mac OS X computer and allows accurate rendering and measuring of the aorta and its branches.
This system has allowed us to improve the quality of planning and follow-up after EVAR and especially to highlight the complications that could not have been revealed by a simple 3D reconstruction.

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Short Report

The Wonders of a Newly Available Post-analysis CT Software in the Hands of Vascular Surgeons

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The Commentary

... this has not been approved for primary clinical use to our knowledge. This may pose serious ethical and medicolegal issues.
Letter regarding the comments to “The Wonders of New Available Post-Analysis CT Software in the Hands of Vascular Surgeons”
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First of all, we need to point out that the post-processing software has been used in order to further improve diagnosis, and not as the main instrument for primary clinical use.

The Authors followed the golden standard in this case and on this basis suggested how the diagnosis could be improved through further investigation.

…In this case the choice of software that is both open source and free of charge and that could guarantee the same, if not better, level of reliability than its approved and expensive version has been a responsible one, which should not be subject to criticism
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