Re. Internal Iliac Artery Coverage During Endovascular Aneurysm Repair

We read with interest the article by Stokmans et al. 1

Recently, we performed a study to determine the effect of pre-emptive coil embolisation versus non-coiled coverage of the internal iliac artery (IIA) during endovascular aneurysm repair (EVAR).

At our institute, patients with a short or aneurysmatic distal sealing zone underwent coil embolisation of the IIA. Non-coiled coverage of the IIA was performed in select cases, usually after unsuccessful coiling attempts or ruptured abdominal aortic aneurysms (rAAAs).

Between January 2003 and January 2013, 365 EVAR procedures were performed. Twenty-three patients received coil embolisation of the IIA. In 21 patients non-coiled IIA coverage was performed. Patients who underwent non-coiled IIA coverage presented with rAAA more often (33.3% vs. 4.3%; \( p = .013 \)).

After coil embolisation of the IIA, buttock claudication occurred in 26.10% versus 0.00% after non-coiled IIA coverage (\( p = .012 \)). We did not observe a difference in the incidence of type 2 endoleak (\( p = .393 \)). No type 2 endoleaks were encountered following IIA coverage. After coil embolisation, 8.70% of patients developed aneurysm expansion post-EVAR versus 23.81% after non-coiled IIA coverage (\( p = .171 \)). EVAR-related mortality was higher in patients with non-coiled IIA coverage (\( p = .013 \)). Patients who underwent IIA coverage without coil embolisation more often required re-intervention (13.04% vs. 52.40%, \( p = .005 \)).

The difference in mortality and re-interventions between both treatment groups could be explained by the baseline difference in rAAA. 2 All deceased patients died shortly after EVAR for rAAA. We believe that type 2 endoleak does not necessarily arise in patients with a non-aneurysmatic common iliac artery (CIA) due to occlusion of the IIA origo, while backflow remains possible in aneurysmatic CIA.

We expect a future niche for non-coiled IIA coverage in patients with a non-aneurysmatic distal sealing zone.

REFERENCES


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Response to ‘Re. Internal Iliac Artery Coverage During Endovascular Aneurysm Repair’

We thank Dr Welten’s group for sharing the Heerlen experience as a response to our recent article on a policy of routinely abandoning pre-emptive embolisation of the internal iliac artery (IIA). We have read with interest the results of their attempt to distillate the effect of non-coiling versus coiling in covering the IIA during endovascular aneurysm repair.

At first it seems that the Heerlen group advertises a message that is contradictory to ours. In the way the results are presented, one could only conclude that abandoning coiling causes harm to the patient. However, they find that the differences in outcome between the non-coiling and coiling groups, all in favour of coiling, are probably caused by the selection bias they encountered in their retrospective study. And we agree, as patients with ruptured abdominal aortic aneurysms and unsuccessful coiling attempts are certainly not comparable to elective patients with uncomplicated iliac anatomy. Especially not when it concerns mortality and risk for re-interventions.

We then get confused with their conclusion. Although they mention no occurrence of type 2 endoleaks following IIA coverage in their series, they conclude that the possibility for backflow in aneurysmatic common iliac arteries (CIAs) remains, and expect non-coiling to be preserved for patients with a non-aneurysmatic CIA. However, no such subgroups are mentioned in the results section.

In our opinion, there is no evidence available in literature which proves that abandoning IIA embolisation causes relevant type 2 endoleaks to occur. Our findings support this. Furthermore, we don’t advocate the sacrifice of the IIA when adequate distal seal could be achieved while saving the IIA, which is most often the case in non-aneurysmatic CIAs.

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