Analysis of risk factors for type II endoleak after treatment with new low profile endografts

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Objective: Type II endoleak still represents the Achilles’ heel of EVAR. Recent observations showed a higher incidence of type II endoleak in patients treated by new low profile endografts than in the ones treated by standard endografts. Our hypothesis is that this finding may be conditioned by the indication to the use of low profile grafts, which is usually represented by small and calcific iliac arteries: in such a condition an enhanced lumbar collateral network may be present and sustain more easily a type II endoleak.

Methods: We retrospectively reviewed our last 60 patients treated between July 2014 and December 2015 by the OVATION prime low profile endograft with the only indication to the use of this graft being narrowed iliac arteries (external iliac arteries diameter < than 6 mm). We then and compare them to 60 consecutive patients that we treated with standard endografts. The incidence of type II endoleak at 6 months was analyzed and we investigated for differences and risk factors for this complication between the two groups.

Results: Mean aneurysmal sac diameter before treatment was 65 mm (range 50-70). The 60 patients (53 males, 7 females) treated by standard grafts had an incidence of type II endoleak of 20%, whether the 60 patients (49 males, 11 females) treated by the OVATION stent graft, with narrowed iliac accesses had an incidence of type II endoleak of 42% (p<.001). The only significant risk factor for the development of type II endoleak after the multivariate analysis performed on the whole group was belonging to the low profile endograft group (OR 4, p<0.001).

Conclusions: This retrospective single center analysis showed that type II endoleak incidence is indeed higher after treatment by low profile endograft rather than by standard grafts when the choice of such an endograft is made for narrowed iliac accesses. Further studies are needed to investigate whether these endoleaks behave differently along follow up in terms of self sealing and aneurysmal sac growth.