Dealing with Endoleaks Typ II using ultralong Ruby Penumbra Coils in a paraprosthetic way

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Introduction
The Typ II Endoleak still might be a consistent problem following EVAR procedures in 4 -24%. Persisting Typ II Endoleaks can lead to enlargement of the aneurysm sac followed by a late ruptur. There is controversy regarding the optimal treatment and the time of active treatment.

Paraprosthetic way
We describe a new approach to deal with Endoleak Typ II by accessing the aneurysm sac via a paraprosthetic way. For this the femoral artery is punctured und a 6 F sheath inserted. Then a pushable stiff wire with a short floppy tip supported by a multi purpose or vertebral catheter is used to pass between the arterial wall and the stentgraft limb and reach the aneurysm sac. Then large volume coils (Ruby Coils Fa. Penumbra) up to 60 cm length creating a volume of up to 32mm are used to fill the aneurysma sac and close the Endoleaks.

Minimal Invasive Therapeutic approaches
There are different therapeutic approaches to seal a Typ II Endoleak.

- Embolisation of the inferior mesenteric artery (IMA) oder lumbar arteries via hypogastric, SMA or translumbar approach
- Laparoscopic Clipping of the IMA
- Direct puncture and Embolisation of the aneurysm sac

Results
5 Endoleaks intended to treat in a paraprosthetic way – in 2 cases a passage was not possible (time since EVAR > 1 year) - 3 Endoleaks Typ II treated successfully - medium number of coils = 10, no complications

Discussion
The new paraprosthetic way is another option reaching the aneurysm sac in cases of Typ II Endoleaks. Although it might not be possible to pass the stentgraft in some cases of long time implanted stentgrafts it could be worthwhile trying it. The handling of the long resheatabe and repositionable coils is easy and one has every option in placing the coils and creating clusters or even other figures.