AAA polymer sac filling to treat endoleaks

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The aneurysm sac filling journey…

2010
- Animal survival studies
- First in man
- Prophylactic

2013
- Animal studies

2016
- In-vitro studies

2018
- First in man
- Endoleak

2019
- Prophylactic

Polymer development
- Bench testing
- Biocompatibility

No disclosures

Treatment of Types II–IV Endoleaks by Injecting Biocompatible Elastomer (PDMS) in the Aneurysm Sac: An In Vitro Study

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Conclusions: This concept of filling the aneurysm sac with PDMS may lead to a percutaneous treatment for endoleaks. While the results of this study show that PDMS may be used to treat endoleaks in vitro, further tests are required to determine if the approach is suitable in vivo.

J Endovasc Ther. 2011;18:205–212
8 female Swifter sheep
77-92 kg
7 days acclimatization
Approval Ethical Committee Animal Research
20 weeks Survival
Survival outcomes

- Patent lumen in the polymer cast
- No aneurysm rupture
- No migration
- No pathological signs in carotid arteries
- No polymer particles, emboli or infarction in the brain

First in Man

- Patients with type II endoleak
- Growing aneurysm
- Patent IMA coiling first; no further growth—stop
- Further growth—include in study
- Translumbar injection of polymers and sac filling
- Post treatment CT at 1 day and 1 month before next patient can be included
- First 3 patients: successful procedure, exclusion endoleak
Next steps

- Translumbar type II treatment, extend of FIM study (2019) with 20 patients and 1 year follow-up
- Transfemoral prophylactic treatment (2019), simultaneous with standard EVAR