Fibrin Glue Sac Embolization to Allow Safe Durable (10 Years) Standard EVAR for AAAs with Shorter More Challenging Proximal Necks: Technique and Results

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Indication of EVAR

➤ Favorable proximal neck anatomy
  • Length more than 10-15mm
  • Angle less than 60-75°
  • Irregular Shape
  • Without severe calcification and/or parietal thrombus

Serious complication of EVAR

➤ Type Ia Endoleak
  unfavorable proximal neck anatomy
  • Shorter
  • Irregular
  • Severely angulated necks
  • Severe calcification and/or parietal thrombus

Simple, safe, cheap and effective method

➤ Prevent or Treat Type Ia Endoleak

- Chimney
- Fenestration
- Branch
- Sac Bag

Fibrin Glue Sac Embolization

Thrombin and Fibrinogen: Hemostasia in Open
Clinic Outcome

- From 2002.8 to 2017.7
- Type Ia Endoleak: 156 cases, male 122, age 70.4 ± 10.6 Y,
- Proximal neck <15mm: 75 cases (<10mm: 35 cases)
- Proximal neck angulation >60°: 48 cases (>75°: 18 cases)
- Neck with severe calcification and/or parietal thrombus: 33 cases
- Mean of 17.7 ± 8.8 ml FG injection
- 154 (98.71%) out of 156 endoleaks were resolved
Clinic Outcome

- Follow up 3-180 M, mean 102 M
- Only three (1.9%) out of 156 patients died of aneurysm-related sac enlargement.
- Cumulative survival rate was 90.1%, 81.5%, 71.6% and 56.7% after 1, 3, 5 and 10 years, respectively.
- The mean maximal aneurysm diameter decreased from $58.98 \pm 12.59$ mm to $48.16 \pm 10.3$ mm.
- No recurrent type I endoleak or sealant-related complications were observed.

Discussion: Mechanism

Not only Embolization For Endoleak
But also Coagulating All Sac of Aneurysm

Discussion: Technique

Occlusion Proximal Flow
Protect Branch Ateliers
Prevent Distal Embolization

RAAA: Any type Endoleak

RAAA: R-EVAR

Femal, 83 Y, 80/60mmHg
Fibrin Glue Sac Embolization: R-EVAR

- Treat Any Type Endoleak of R-EVAR
- Prevent Rupture Post R-EVAR
- Decrease Abdominal Compartment Syndrome

Conclusions

- Fibrin Glue Sac Embolization is a simple and effective treatment method,
- Especially for patients with short proximal neck, severe neck angulation, severe calcification, parietal thrombus and RAAA.
- This method could expand the current indications of EVAR.
### Expand the current indications of EVAR

**Indication I (Selective)**
- Length ≥ 5mm
- Angle ≤ 90°
- Severe calcification
- Parietal thrombus

**Indication II (Emergency)**
- RAAA

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