Dealer's Choice: Embolization Techniques for Type II Endoleak

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Purpose

- To discuss indications for the treatment of type II endoleak.
- Describe five treatment approaches via embolization which often depend on operator preference but can be influenced by anatomical considerations.

Materials and Methods

- This presentation collates information from current literature on various embolization techniques for type II endoleak, including their drawbacks[1-4].

Type II Endoleak: Overview

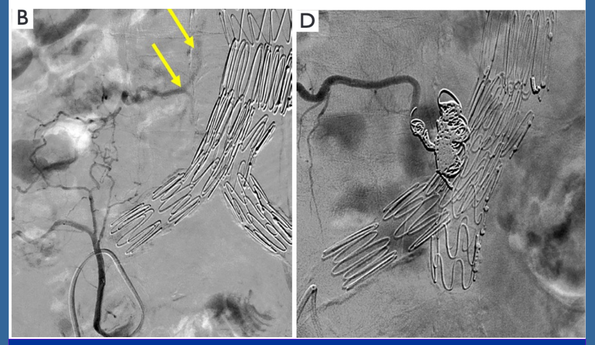
- Endoleak occurs following EVAR when perfusion of the aneurysm sac persists despite endograft deployment[1].
- Type II endoleak is the most common, occurring in up to 30% of patients[2].
- While some resolve spontaneously, treatment is indicated if the endoleak results in persistent sac expansion (>5 mm increase in diameter and/or >5% increase in volume)[1].

Treatment Approaches

- Transarterial
- Translumbar
- Transabdominal
- Transcaval
- Perigraft

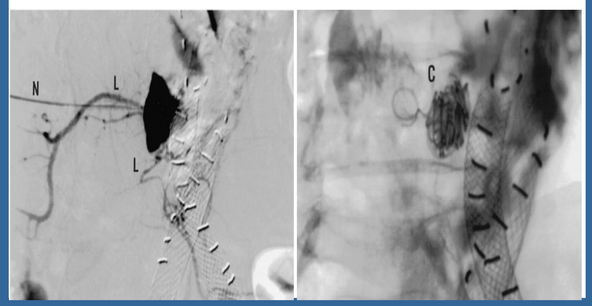
Transarterial

- Uses transfemoral access to embolize the aneurysm nidus and feeding vessels via retrograde transcollateral catheterization.
- Drawbacks include difficulty with catheterizing tortuous vessels and conversation to the translumbar approach.



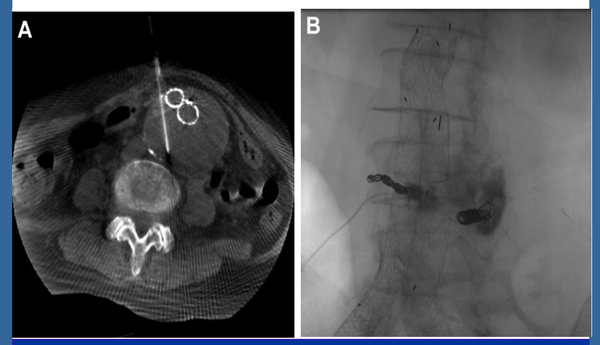
Translumbar

- With the patient prone, the sac is accessed percutaneously at the level of the endoleak using fluoroscopic guidance.
- Drawbacks include tenuous passage near the IVC during right-sided approaches, and difficulties embolizing afferent and efferent vessels.



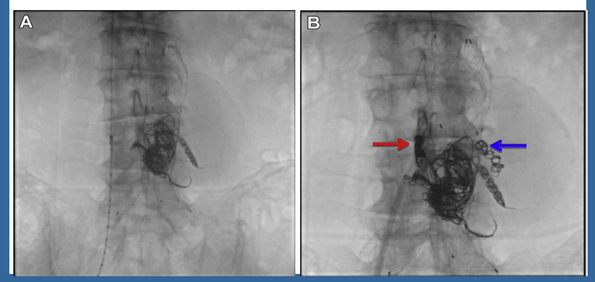
Transabdominal

- Direct anterior sac access under ultrasound or CT guidance is performed on the supine patient.
- Drawbacks include the potential for bowel injury and passage difficulties in obese patients



Transcaval

- Useful for right-sided endoleaks and those lying close to the IVC, this approach uses IJ or transfemoral venous access to pass an IVC needle into the aneurysm sac.
- Drawbacks include the potential for pulmonary embolism from non-target embolization, retroperitoneal bleeding, and aortocaval fistula.



Perigraft

- The sac is accessed via a transfemoral arterial approach to enter the potential space between the endograft's distal aspect and common iliac arterial wall.
- Drawbacks include nontarget embolization of femoral and visceral vessels, inability to access the excluded segment, and subintimal catheterization.

Conclusion

- The five embolization techniques to repair type II endoleak require complex catheterization skills but vary in their employment due to operator preferences and anatomical considerations.
- These techniques can be used alone or in combination.

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Images:

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