

Techniques for Endoleak Repair: Case Series

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Purpose

Endovascular repair is first-line treatment of abdominal aortic aneurysm. Routine surveillance imaging after repair consistently identifies endoleaks which interventionalists are asked to repair.

Material and Methods

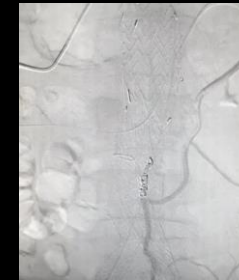
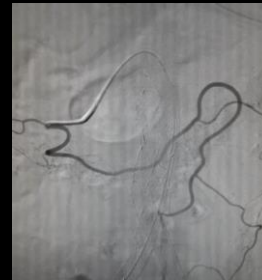
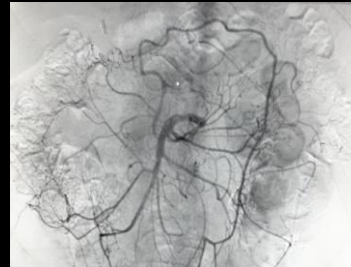
Endoleak is due to the aneurysm not being excluded from retrograde arterial circulation. Type II endoleaks are from retrograde flow into the aneurysmal sac from in branch vessels such as the SMA, IMA, lumbar arteries, gonadal artery, or median sacral artery.

Type II endoleaks are typically identified early after endovascular repair with incidence rates peaking from 1-6 months and gradually decreasing in rate from then onwards. Most type II endoleaks have a benign history and are only very rarely associated with rupture (about 1 percent), so observation and surveillance are typically done instead of intervention. An expansion of the aneurysmal sac greater than 5 mm on interval follow-up is the best guide available for whether intervention is necessary.

Transarterial embolization involves accessing the femoral or radial artery, using catheters to reach the arteries providing retrograde flow and embolizing the branches with microcoils or glue. Translumbal embolization involves accessing the aneurysmal sac from the paraspinal area under CT and fluoroscopy and injecting glue or coils to occlude retrograde flow.

Results

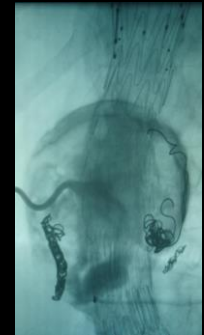
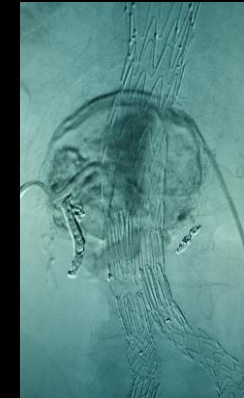
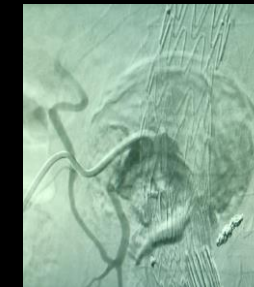
All cases in this series demonstrate repair of type II endoleak. Patients in these cases tolerated these procedures well and made uneventful recoveries.



Case 1 demonstrates repair by transarterial coil embolization of retrograde flow via the arc of Rioloan.



Case 2 demonstrates percutaneous translumbar repair by injection of glue into the aneurysmal sac blocking retrograde flow from a lumbar artery.



Case 3 demonstrates a second effort to repair an endoleak after successful repair by transarterial coil embolization of retrograde flow via the arc of Rioloan one year earlier. A branch from the IMA was coiled and the flow from the lumbar artery was occluded by insertion of coils into the aneurysmal sac via percutaneous translumbar approach.



Case 4 is another case which demonstrates occlusion of flow from a lumbar artery by insertion of coils into the aneurysmal sac via percutaneous translumbar approach.

Conclusion

Type II endoleaks can be successfully repaired via transarterial and percutaneous translumbar approaches. In some cases, both approaches must be undertaken for successful repair.