



CAIR Case of the Month

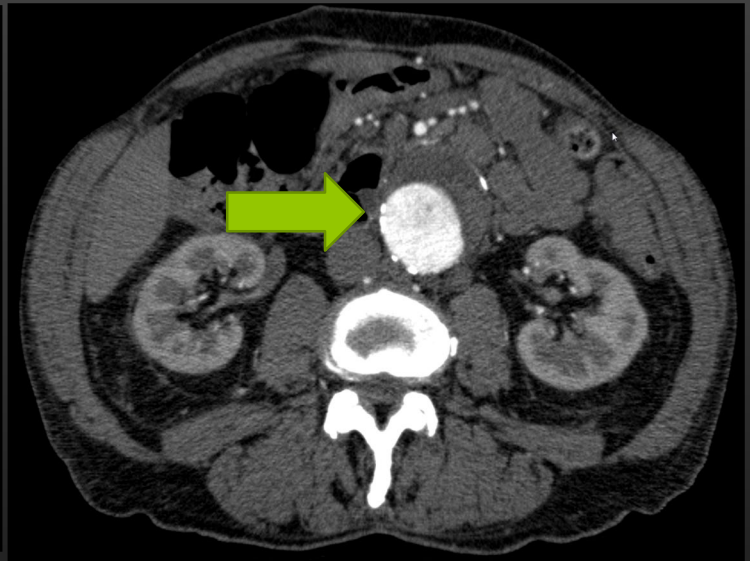
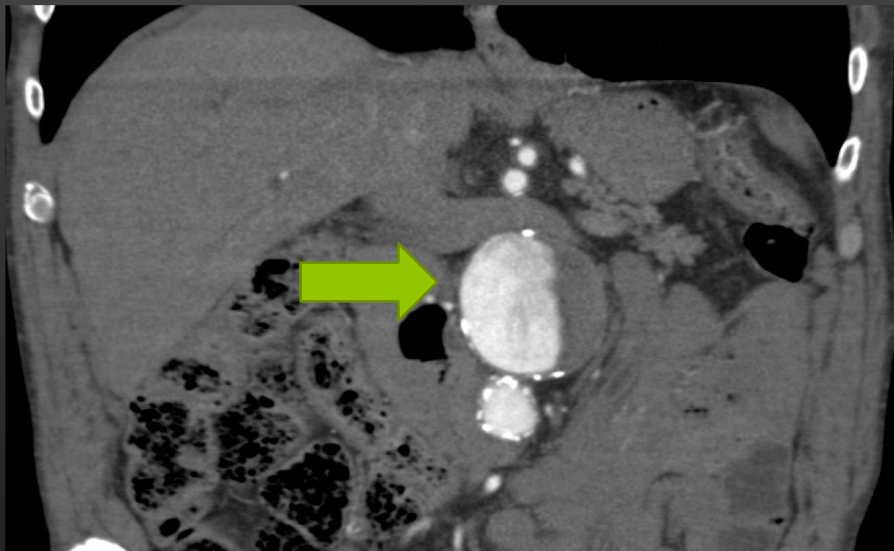
Case Courtesy of Drs. X. Liu,
M. Rochon, and A. Jaber
University of Toronto

Case Presentation

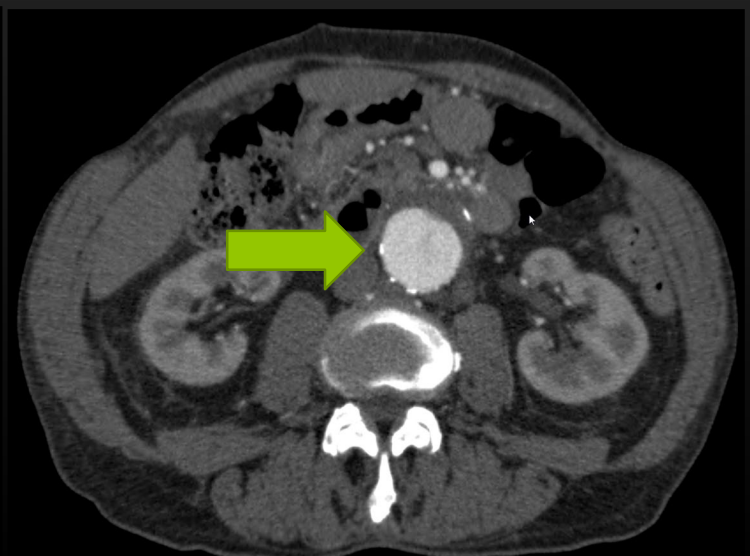
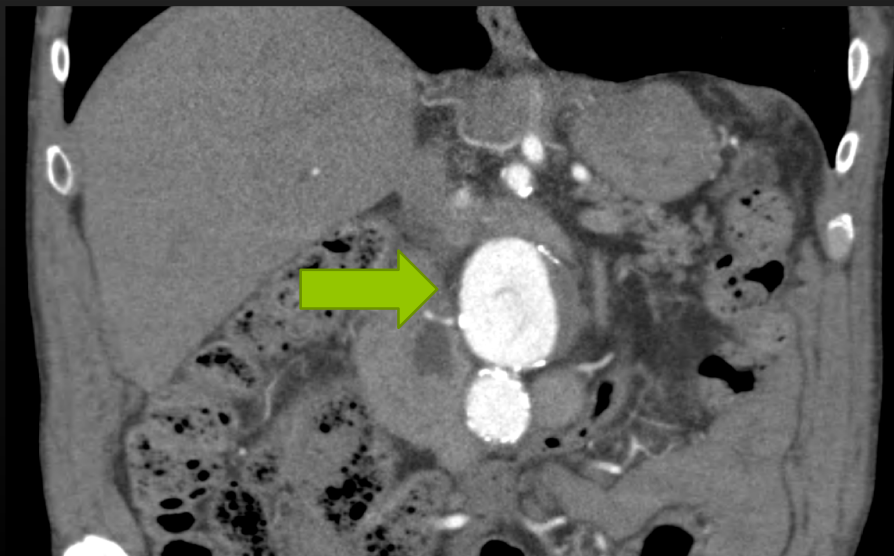
- 80 year-old male, followed for AAA
- CT angiogram demonstrated infrarenal AAA of 5.9 x 5.4 cm
 - Significantly increased from prior scan 2 years ago
- Decision for EVAR
 - Aorto bi-iliac stent graft
 - Renal fenestration bilaterally
 - SMA fenestration

Pre-EVAR CT Angiogram

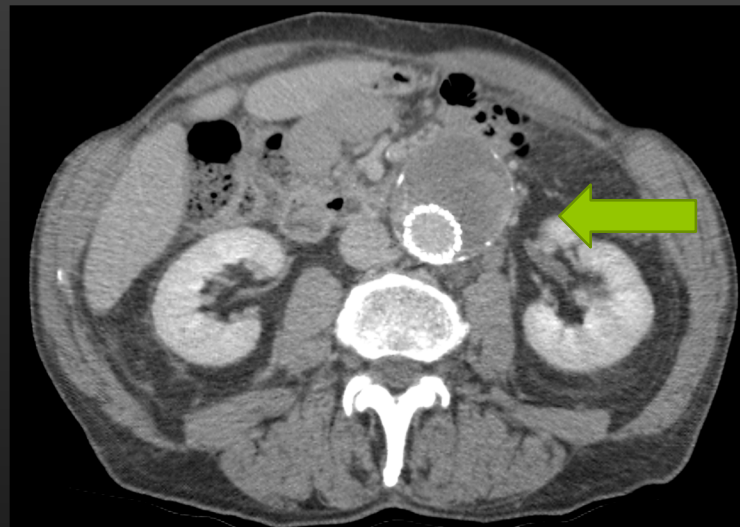
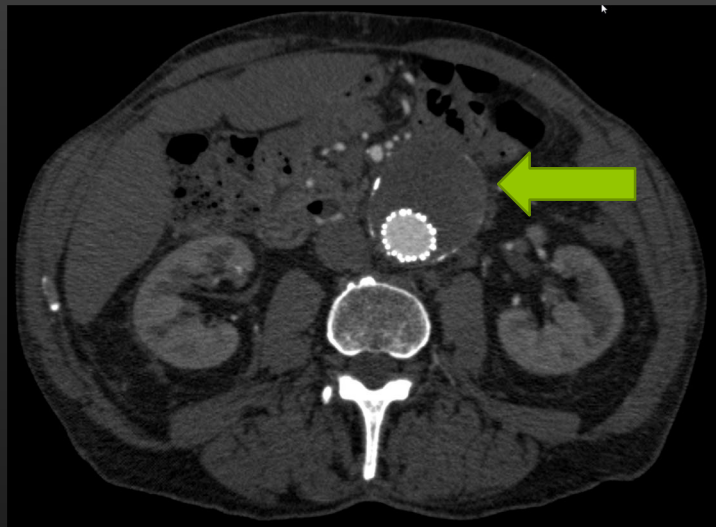
2014



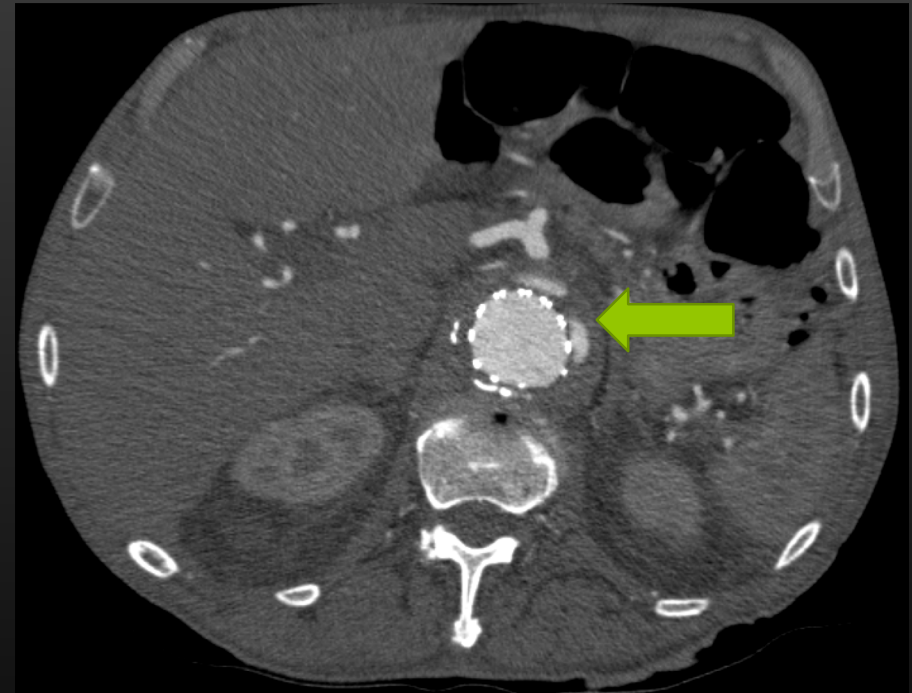
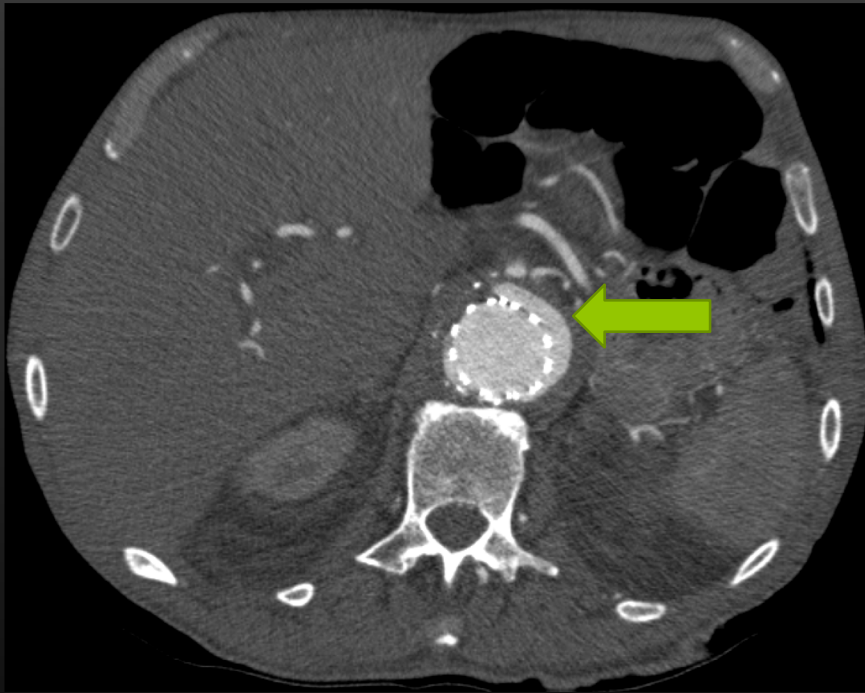
2012



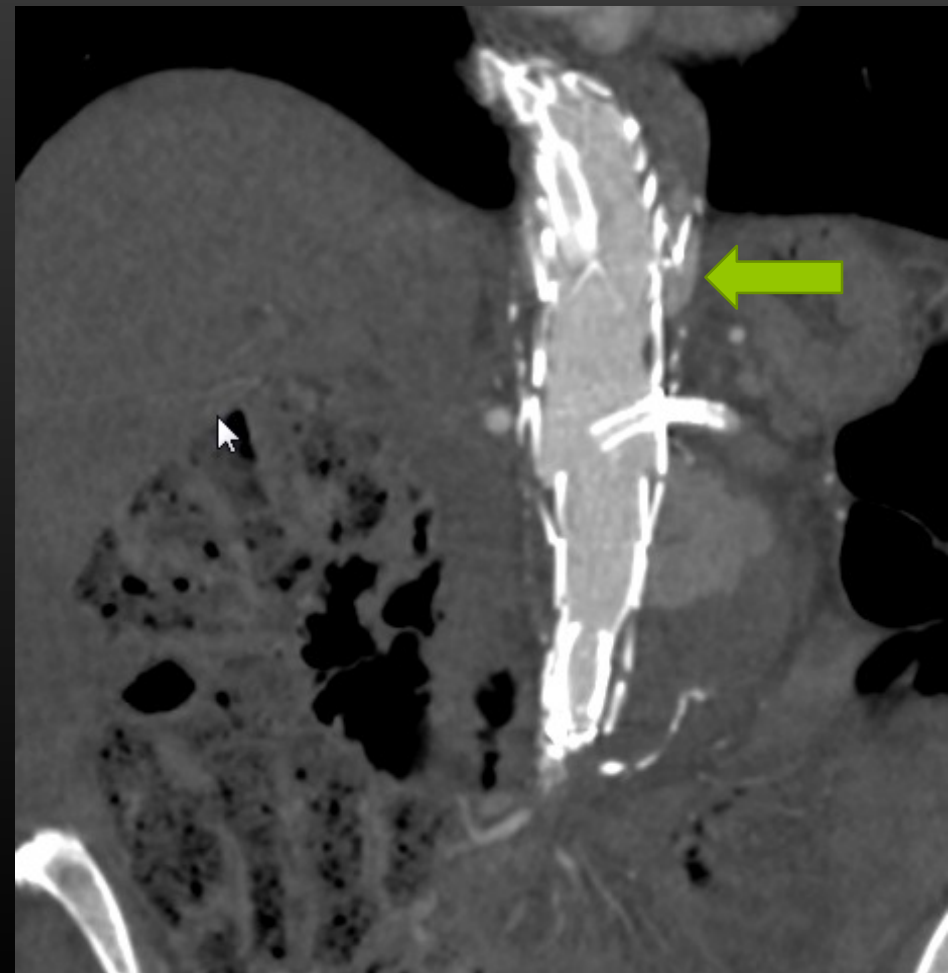
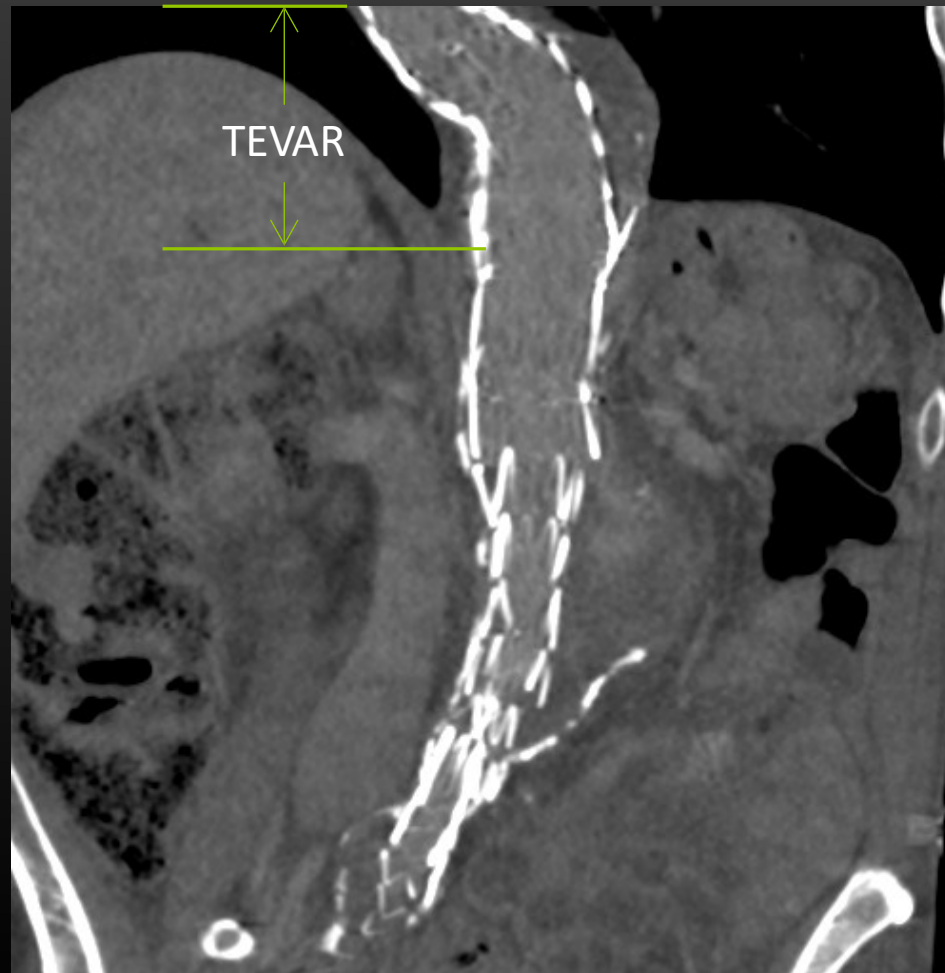
EVAR with 3 fenestration performed,
follow-up CTA showed no endoleak



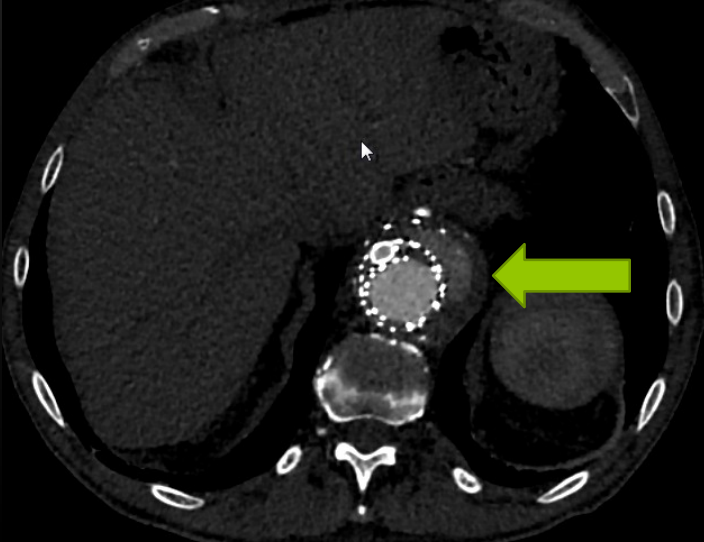
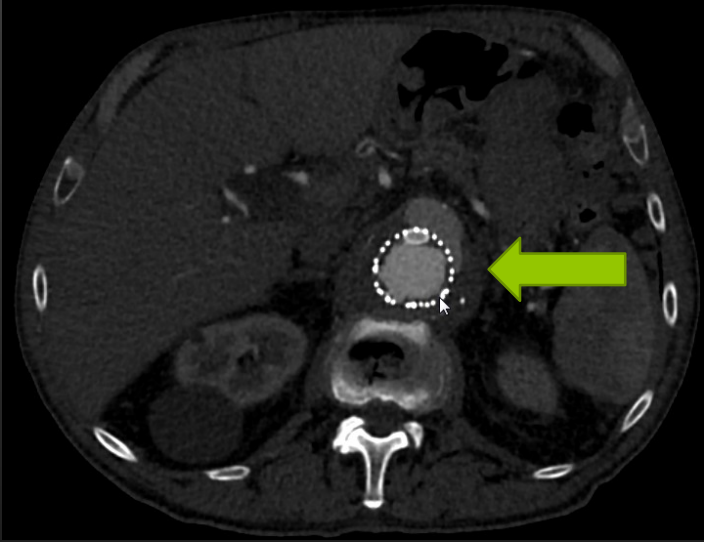
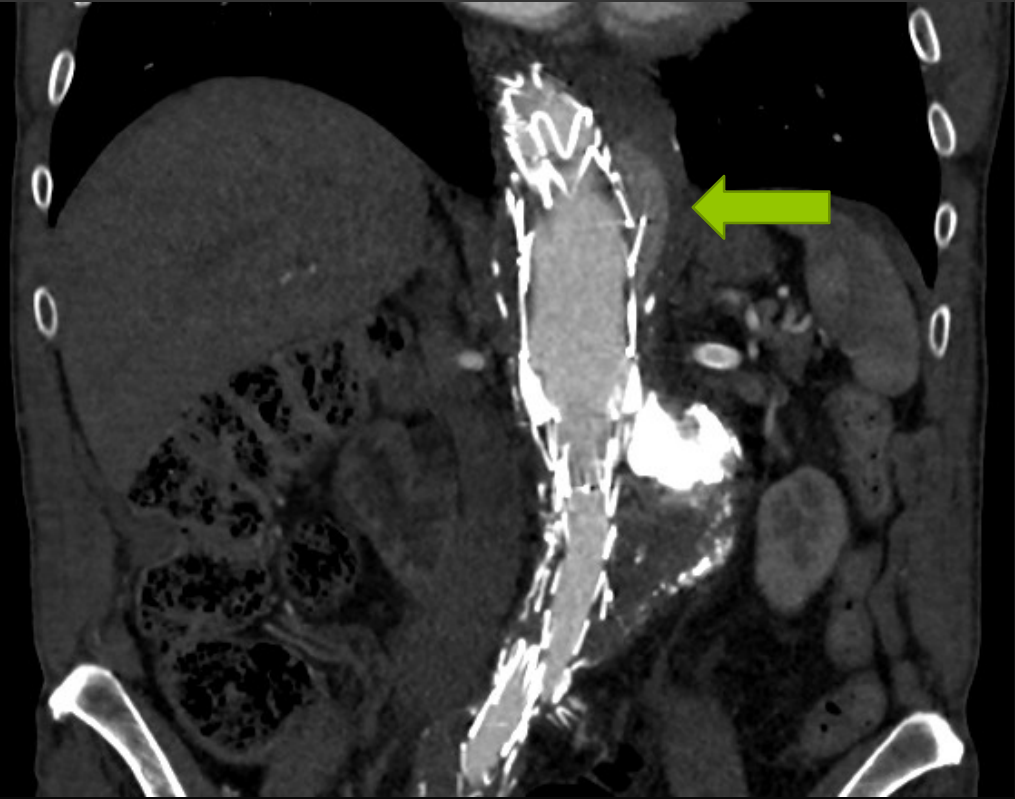
Development of type 1 endoleak at the superior end of EVAR 4 years later



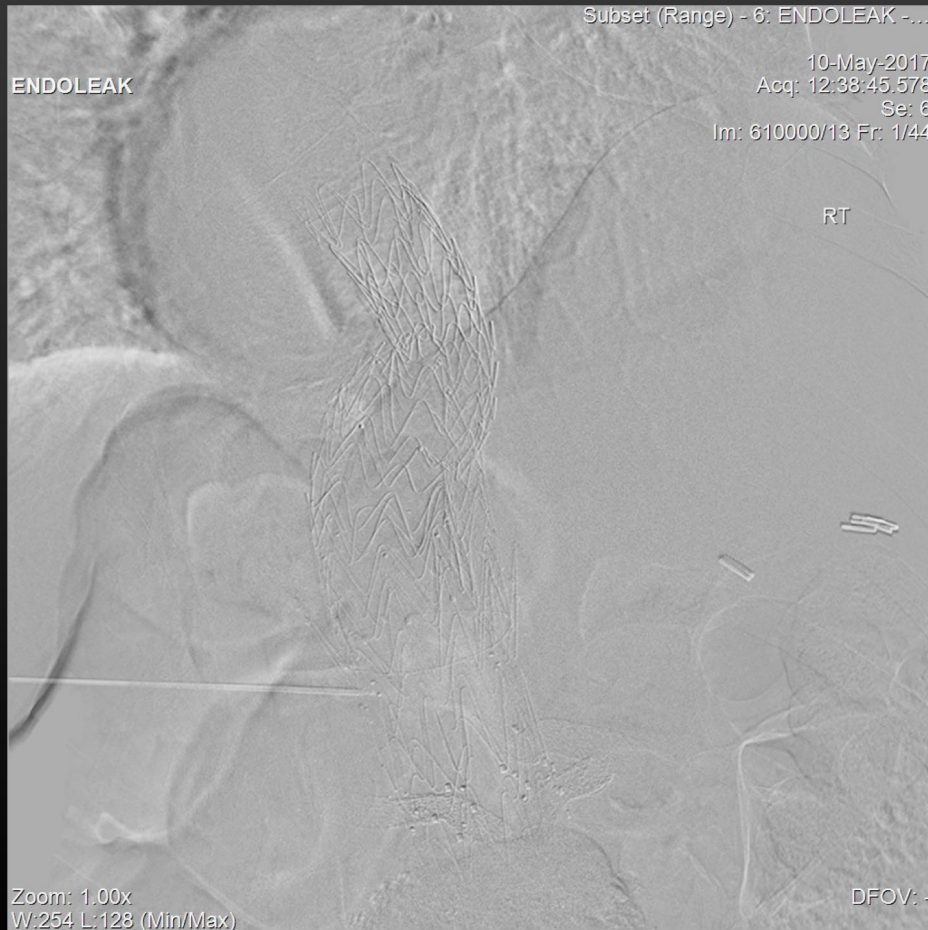
TEVAR extension from existing EVAR: persistent small leak at the inferior margin of thoracic endoprosthesis



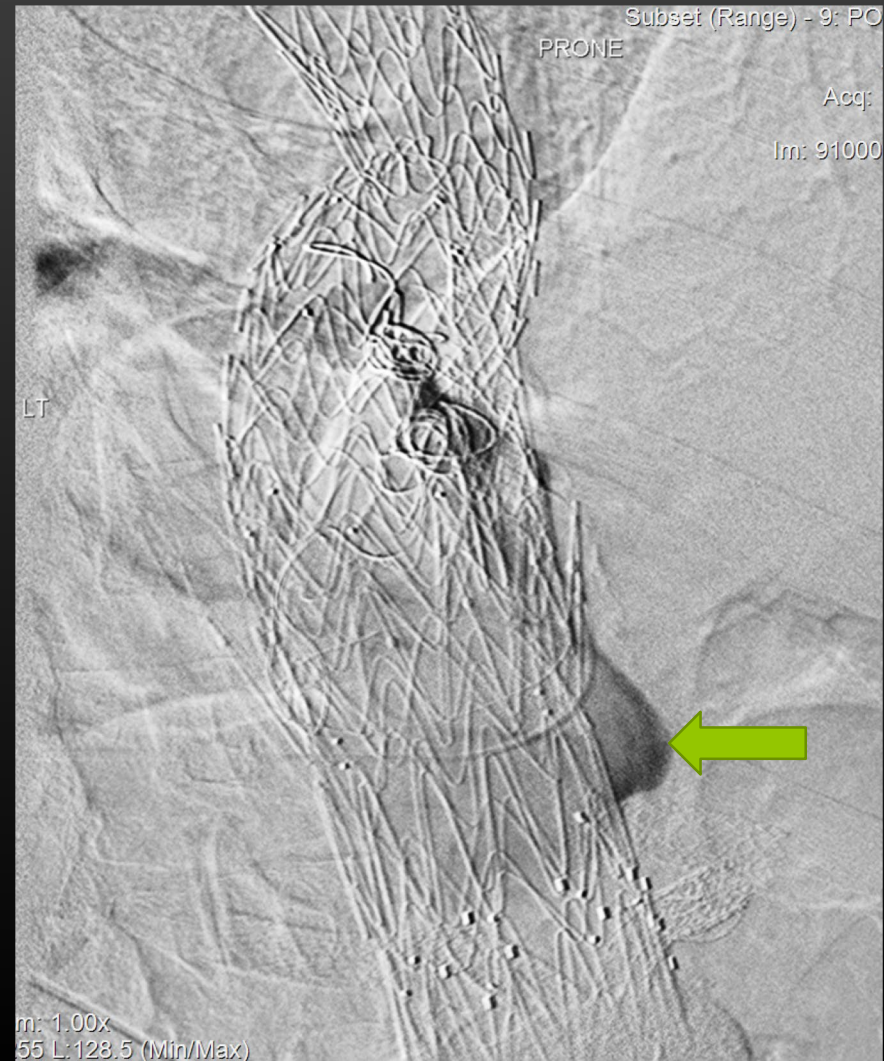
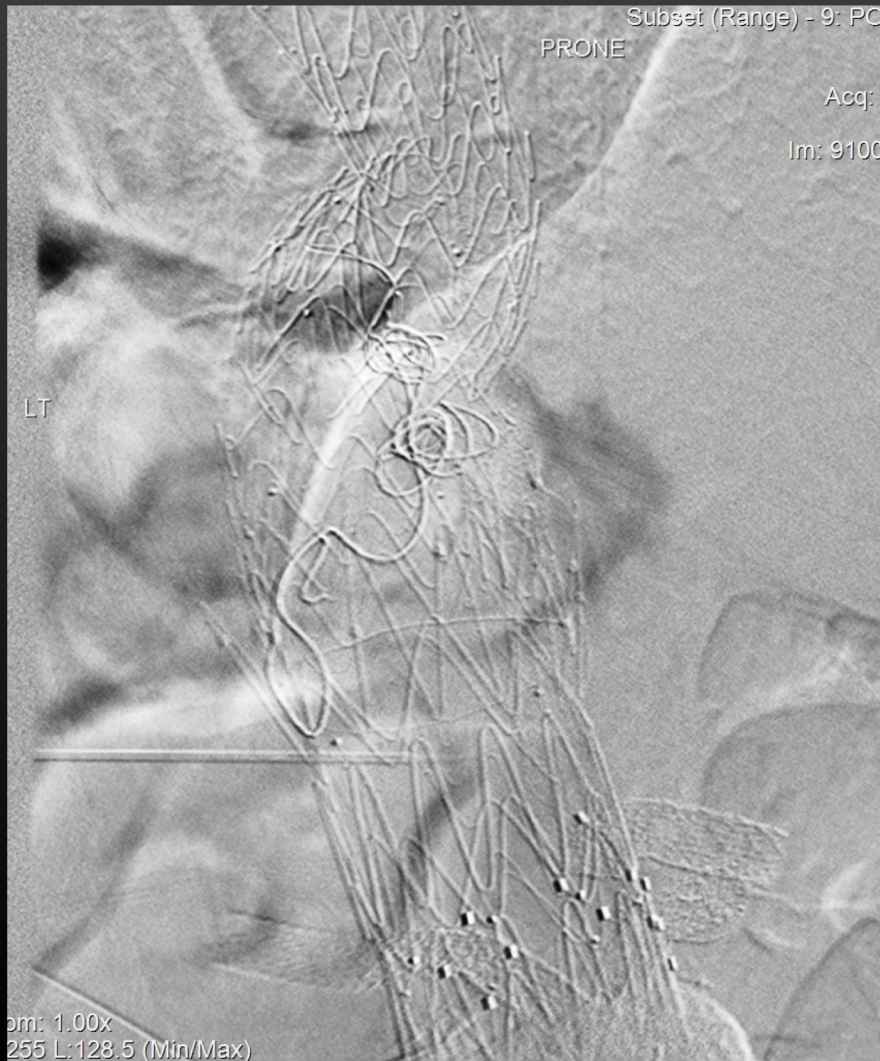
6 month follow-up shows enlarging endoleak at the EVAR & thoracic endoprosthesis junction



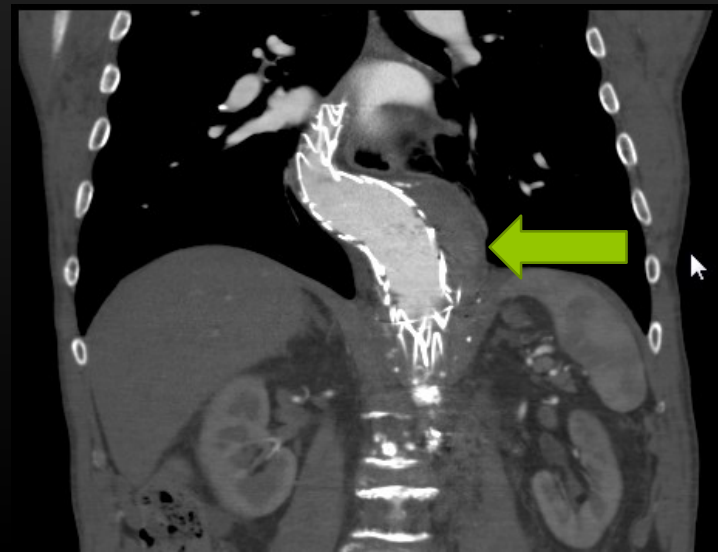
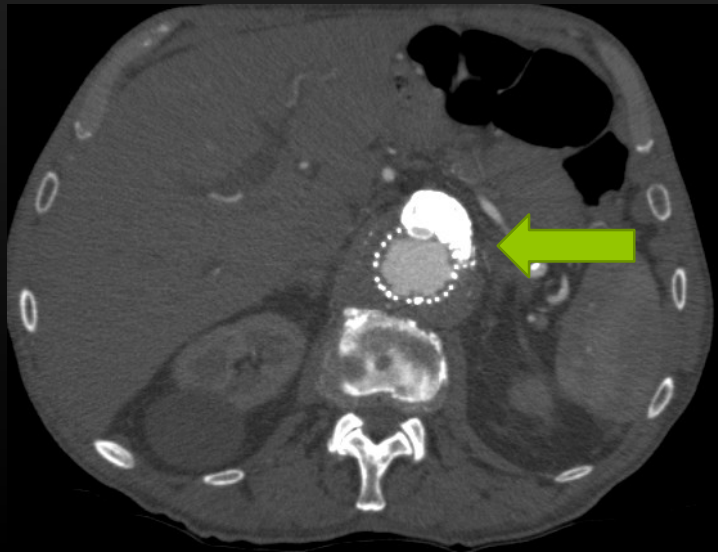
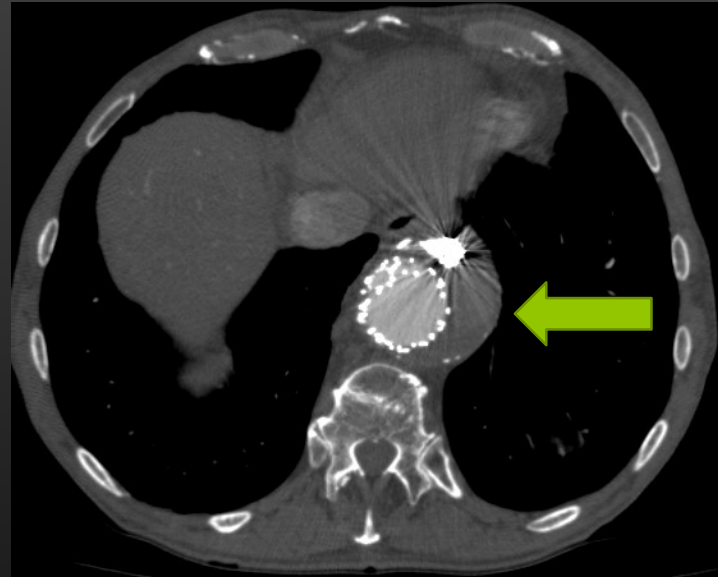
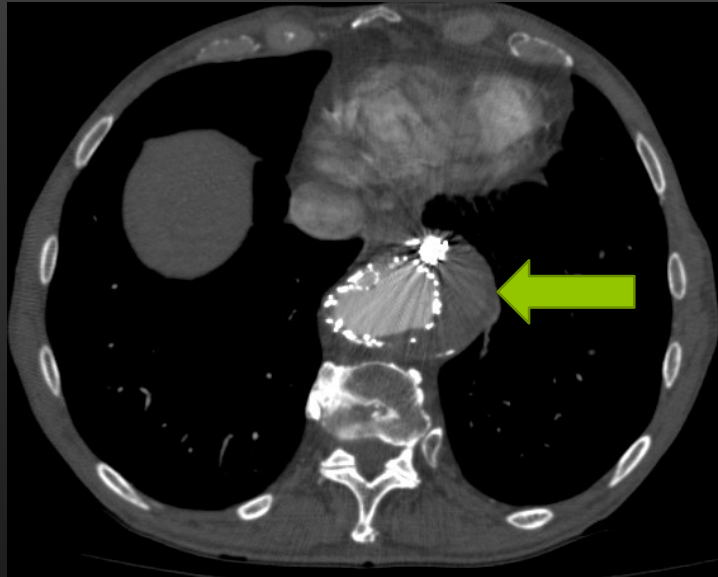
Coil embolization at origin of the endoleak: pre-coil



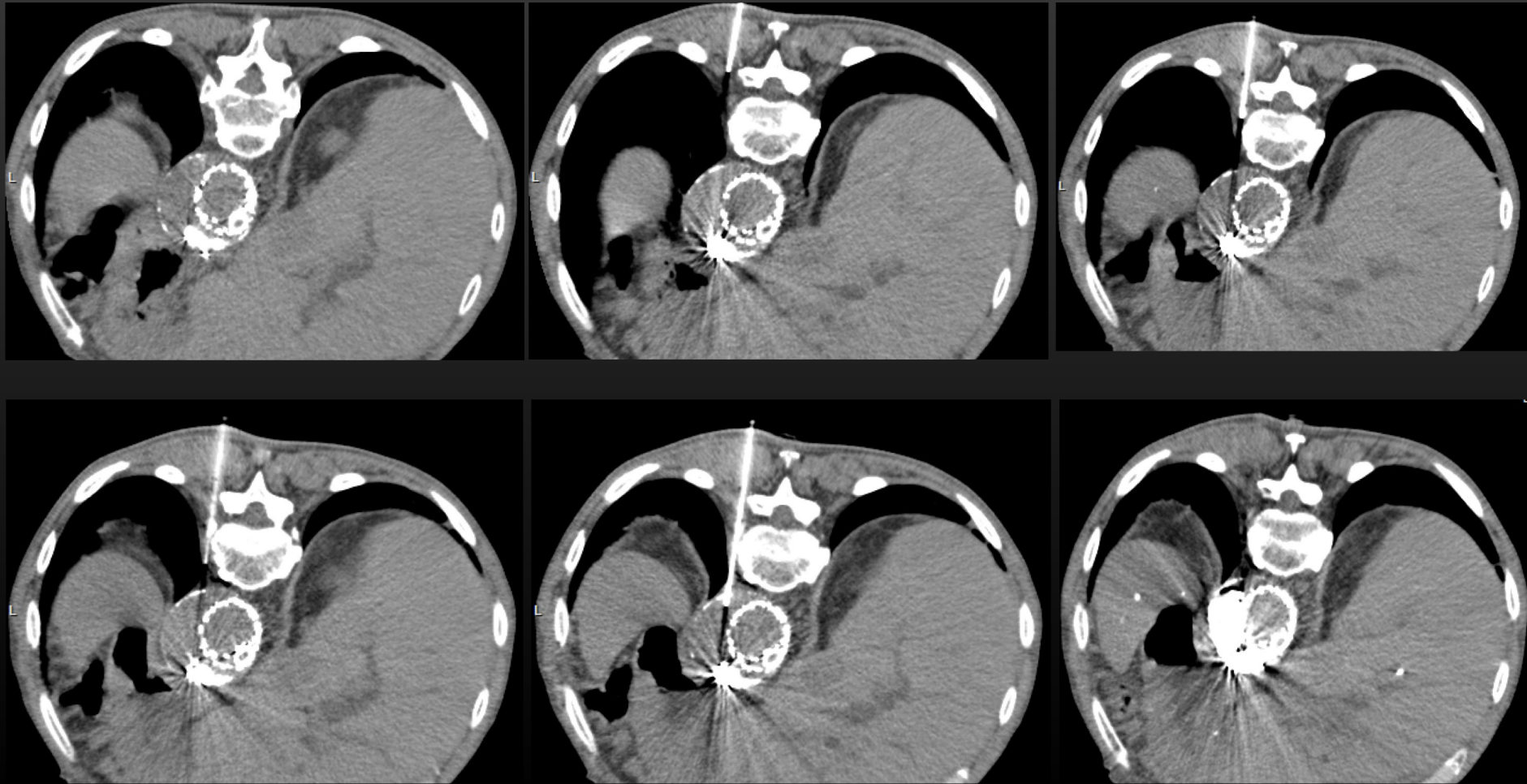
Coil embolization at origin of the endoleak (post-coil)



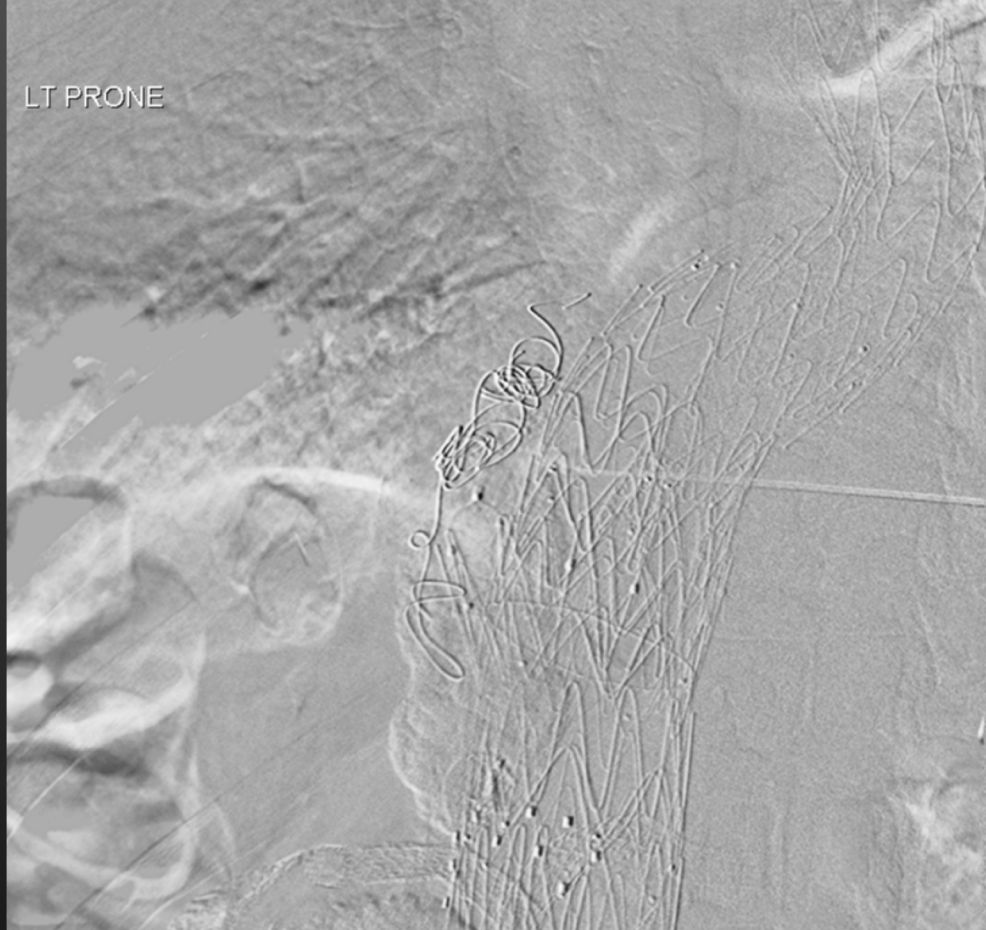
1 month follow-up: no endoleak, but aneurysm sac slightly larger



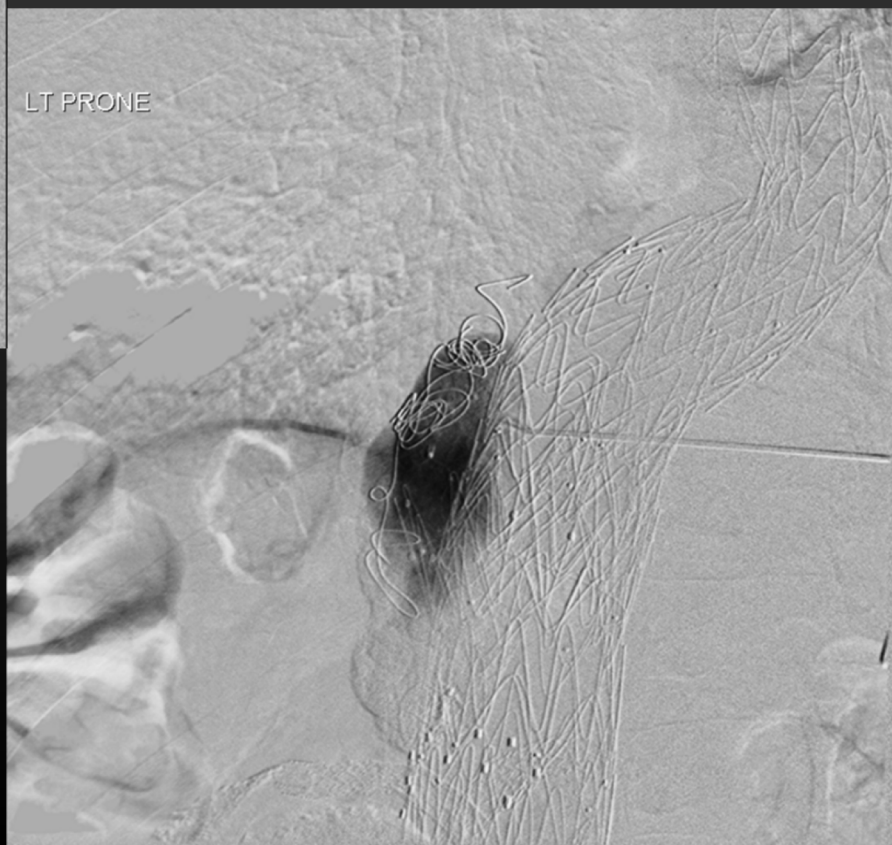
Procedure: Percutaneous direct aortic puncture via hydrodissection and coil/glue of endoleak



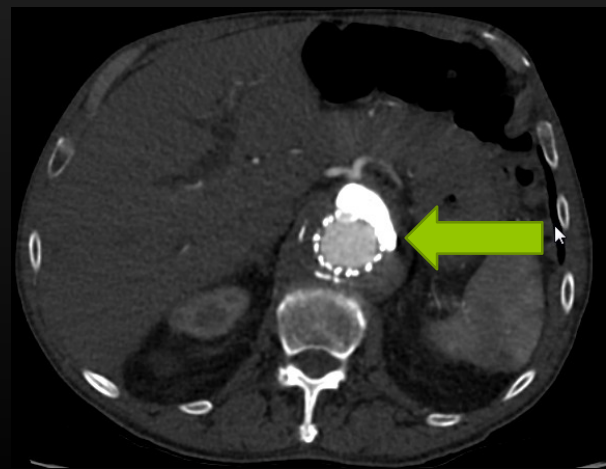
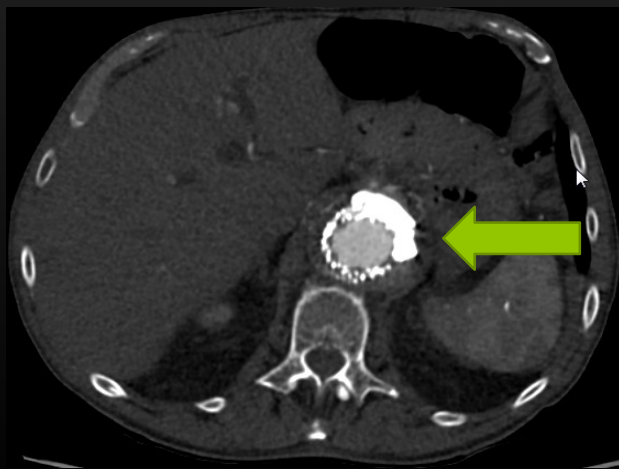
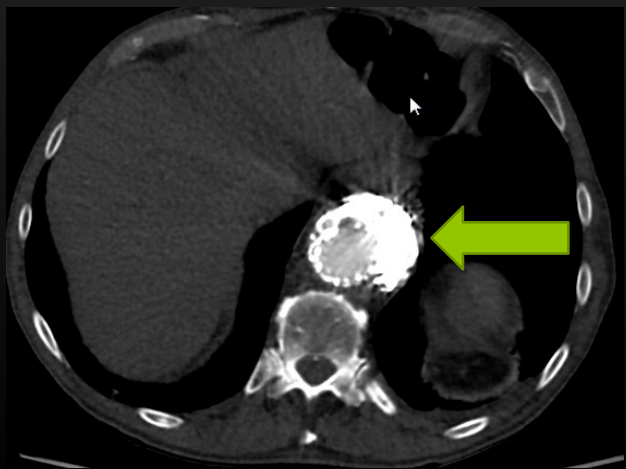
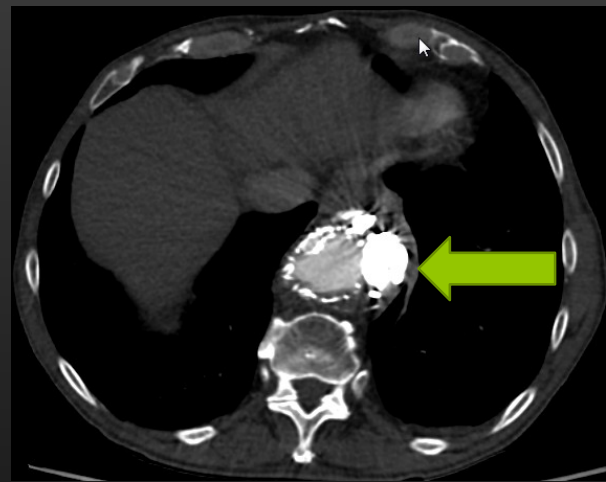
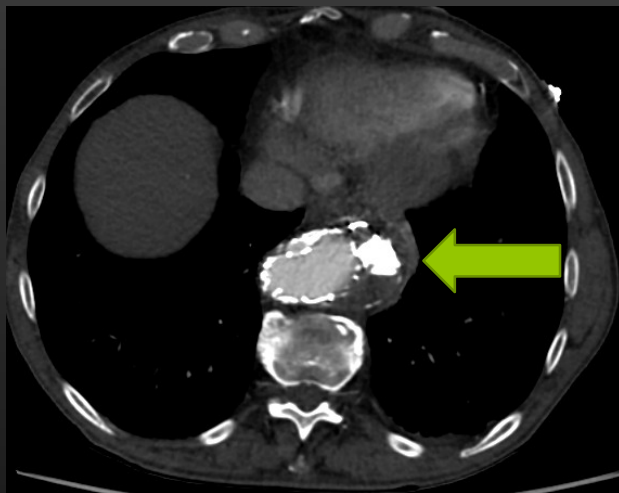
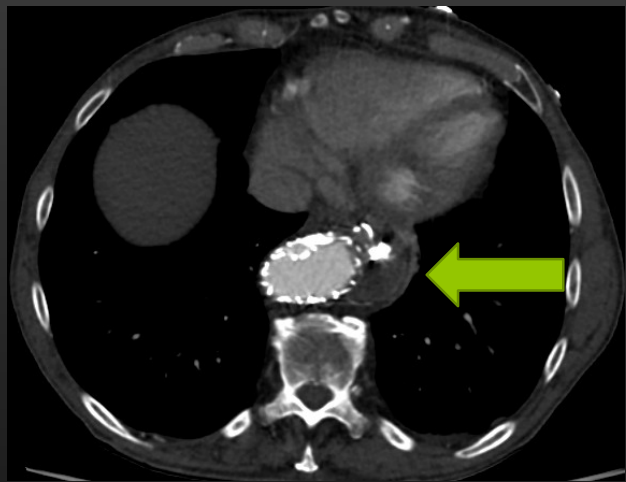
LT PRONE

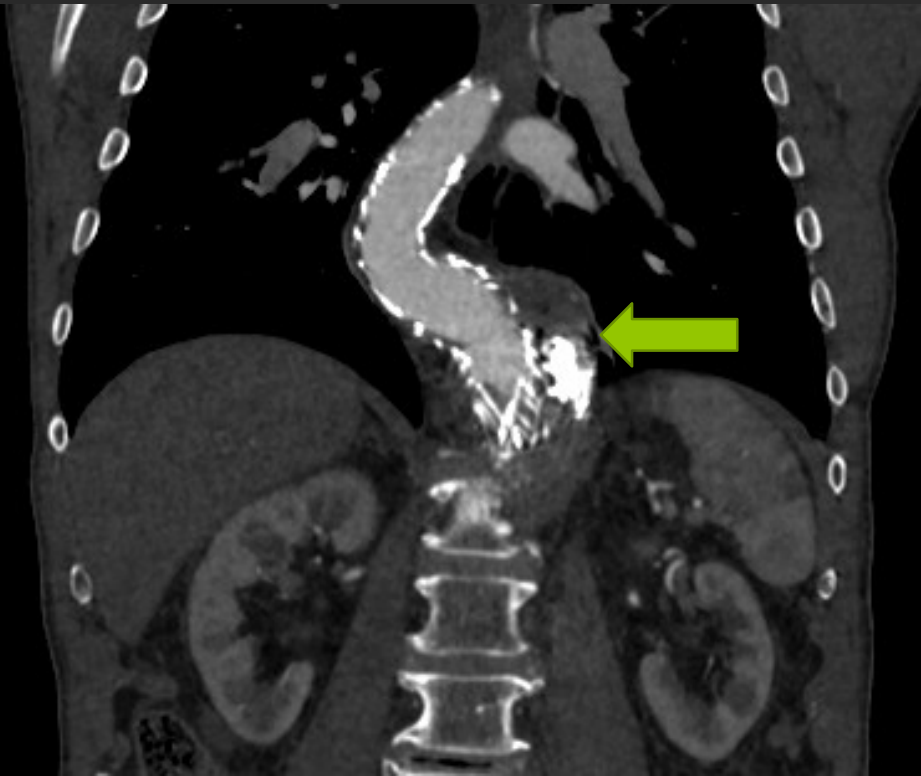


LT PRONE



6 month follow-up imaging



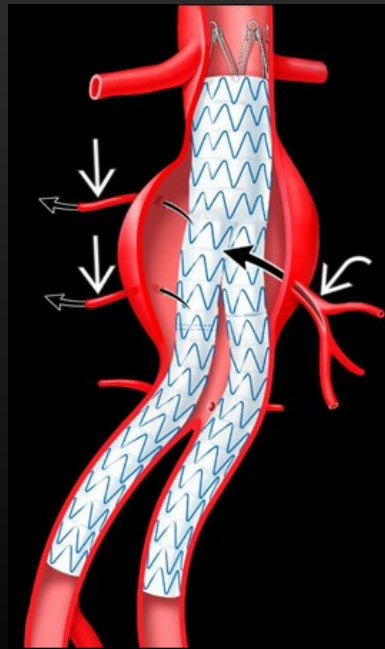


Background

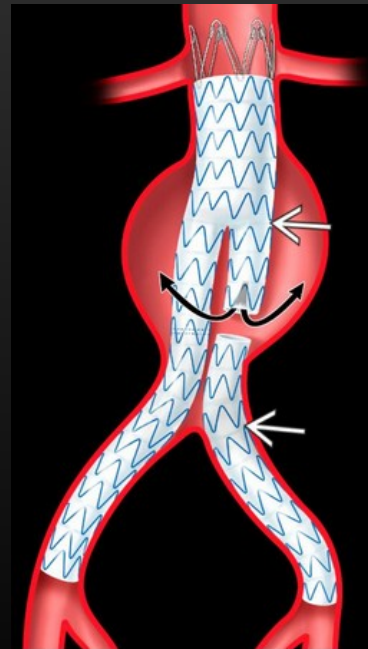
- Endoleaks: Persistent perfusion of excluded aneurysm sac after endograft placement
- 5-20% post TEVAR, 10-30% post EVAR



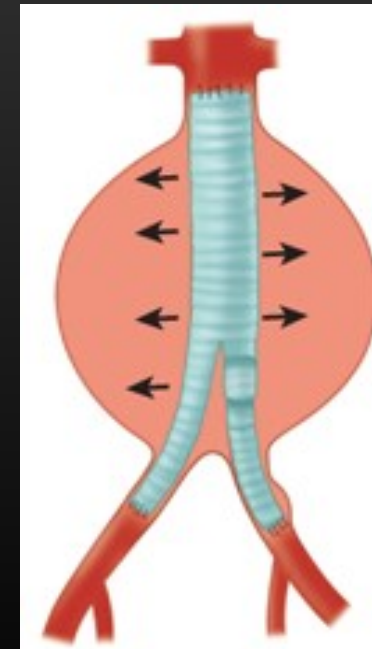
Type 1



Type 2



Type 3



Type 4

Adapted from StatDx

Evidence & Discussion

- Transarterial vs direct sac puncture:
 - Similar effectiveness 91% in freedom from aneurysm sac expansion
 - $\frac{1}{4}$ of fluoroscopy time for direct sac puncture => less radiation, shorter procedure time
- Important aspect:
 - Avoid puncture of pulmonary parenchyma by hydrodissection
 - Embolize afferent endoleak channels and also efferent vessels
 - Extensive use of glue to obliterate aneurysm sac, in addition to coils
 - Use of embolization material: NBCA-lipiodo very high risk of migration of NBCA into aortic arch branches. Complete endoleak channel embolization by metal coils should be objective

References

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