



University
Medical Imaging
Toronto

The Role of EVAR in Chronic Type B Dissection Planning and Technical Considerations

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Disclosure

Type	Company
Research Studies	Biotronic, Boston Scientific, Bard Medical, Cook, Medtronic
Research Grants	Bard Medical, Gore Medical, Medtronic, Cook
Proctorship	Cook, Abbott Vascular, Medtronic

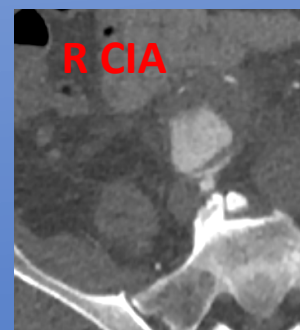
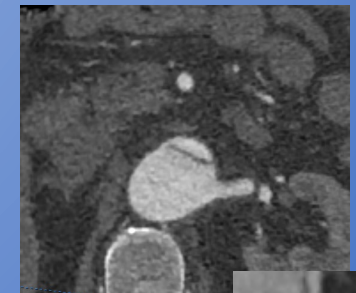
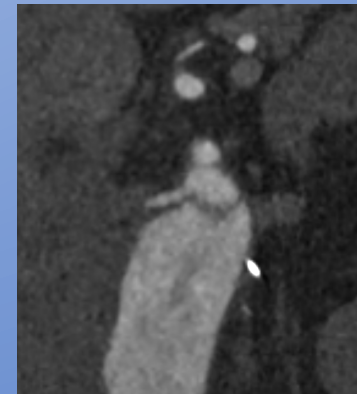
F-EVAR of Post Dissection Aneurysmal Aorta

	Verhoeven Nurnberg, Germany 2012	Kitagawa CCF, USA 2013	Haulon Lille, France 2014
N. of patients	6	15	15
Median age	62 (44-71)	58 (33-71)	61 (31-77)
Maximal diameter (mm - median, range)	69 (64-73)	64 (43-97)	67 (56-79)
Connective tissue disease	NA	6 (40%)	3 (20%)
Arch involvement	0	1 (7%)	6 (40%)
Previous aortic surgery (including T-EVAR)	NA	12 (80%)	11 (73%)
Median nb of fenestrations/branches	3 (0-4)/1 (0-4)	NA	4 (0-4)/2 (0-2)
Median time elapsed (in months) between acute onset and complex EVAR (median, range)	32 (10-123)	124 (24-408)	48 (12-360)
Staged procedure (TM only)	NA	78%	45%
Technical success	100%	NA	100%
30d-mortality	0	0	1 (7%)
Reintervention	NA	8 (53%)	2 (13%)
Mean FU (months)	9 (3-15)	20 (1-62)	12 (1-36)

Challenges with Post Dissection Aneurysm

- Small True Lumen
- Target vessel from False Lumen
- Dissections extend deep into target arteries
- Large target vessel ($> 10\text{mm}$)
- Dissected Iliac arteries – distal seal
- Type 2 endoleaks from hypertrophic lumbar/intercostals

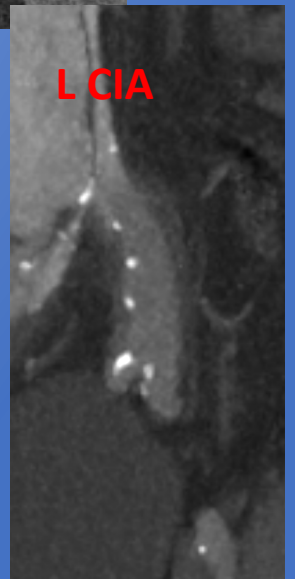




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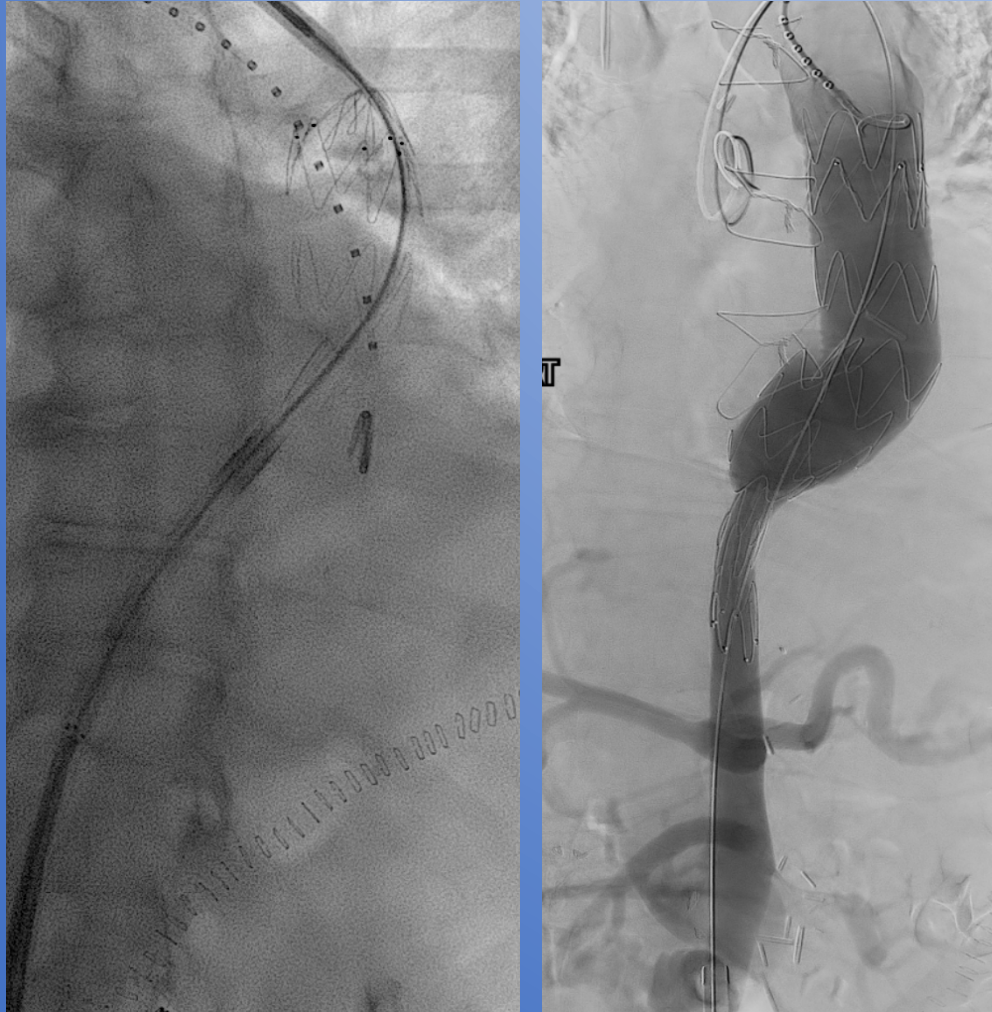


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Anatomical challenges and Procedure Plan to mitigate these

- Long coverage – spinal cord ischemia
 - Staging with TEVAR plus MISACE
- Small true lumen
 - Staging with TEVAR
- Left renal from false lumen
 - In-Situ fen of the aortic flap if needed
- Dissection ends in Common/external iliac
 - Bilateral Iliac Bifurcated Graft

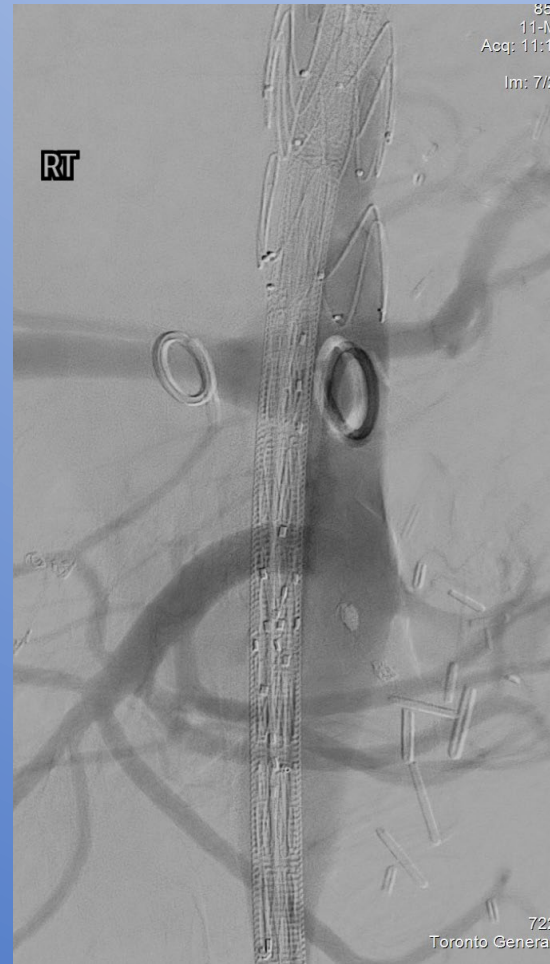
TEVAR



PURPOSE

1. Allow time for true lumen to dilate
2. Cover the intercostals to promote spinal arteries collateralization
3. Time needed for custom fen endograft construction

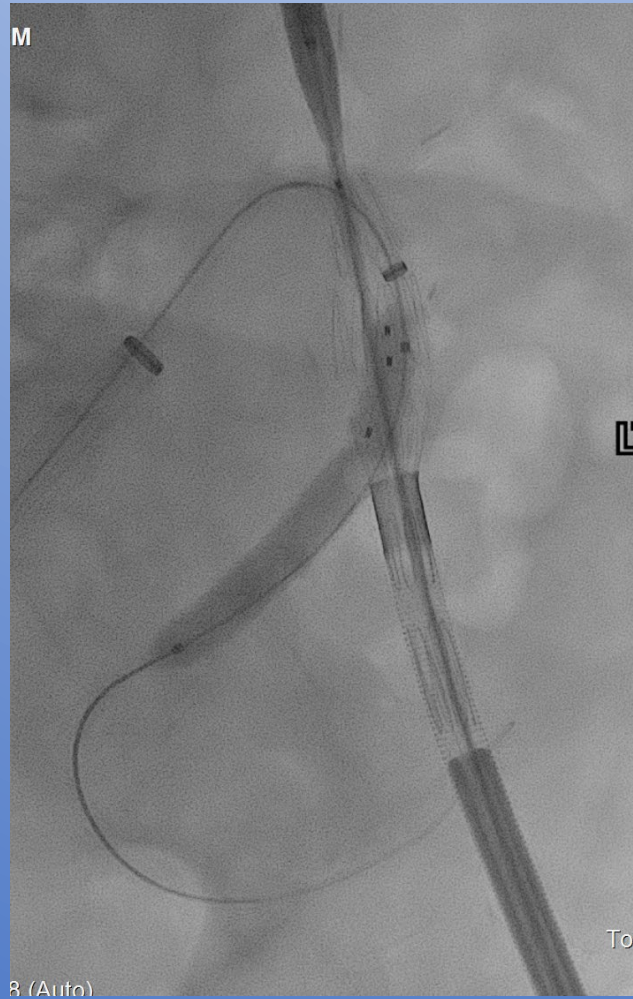
2 months later - FEVAR



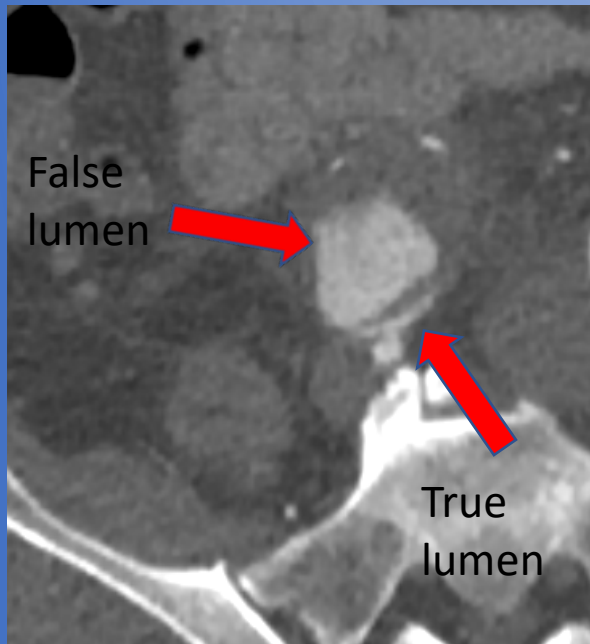
Left renal – make sure stentgraft deep into hilum



Left IBG

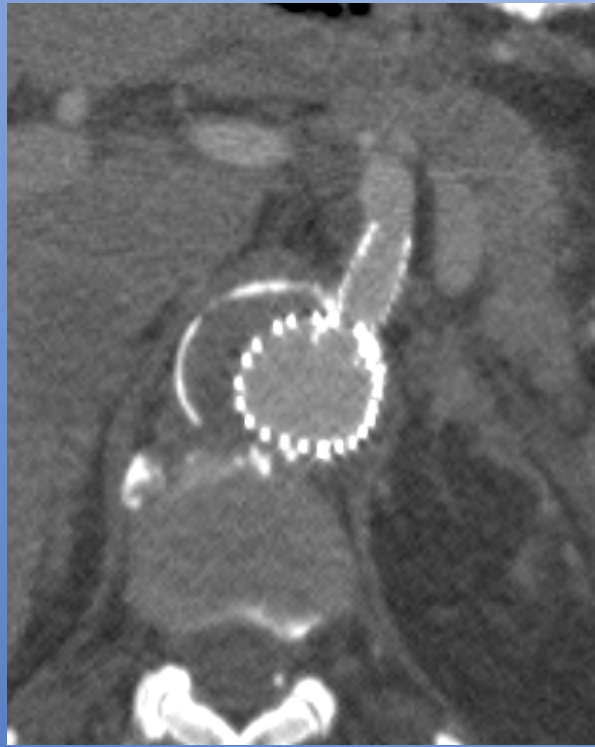
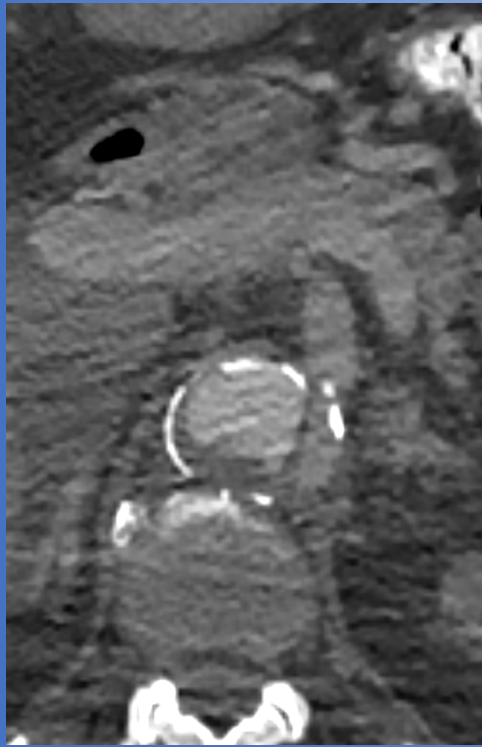


Right IBG

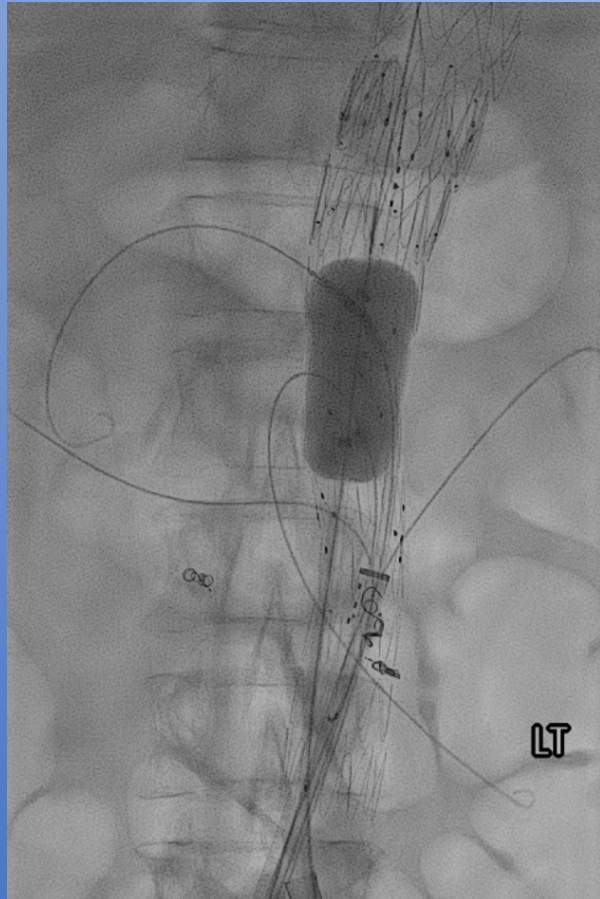


POST FEVAR and IBGs— IMA Lumbar endoleak

Small True Lumen

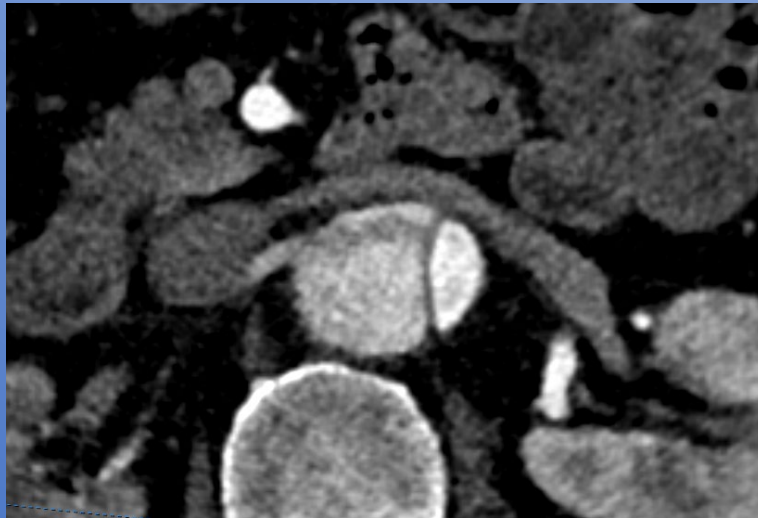


Coda Balloon Dilatation prior to Bridging stents deployment to Improve Aortic Diameter



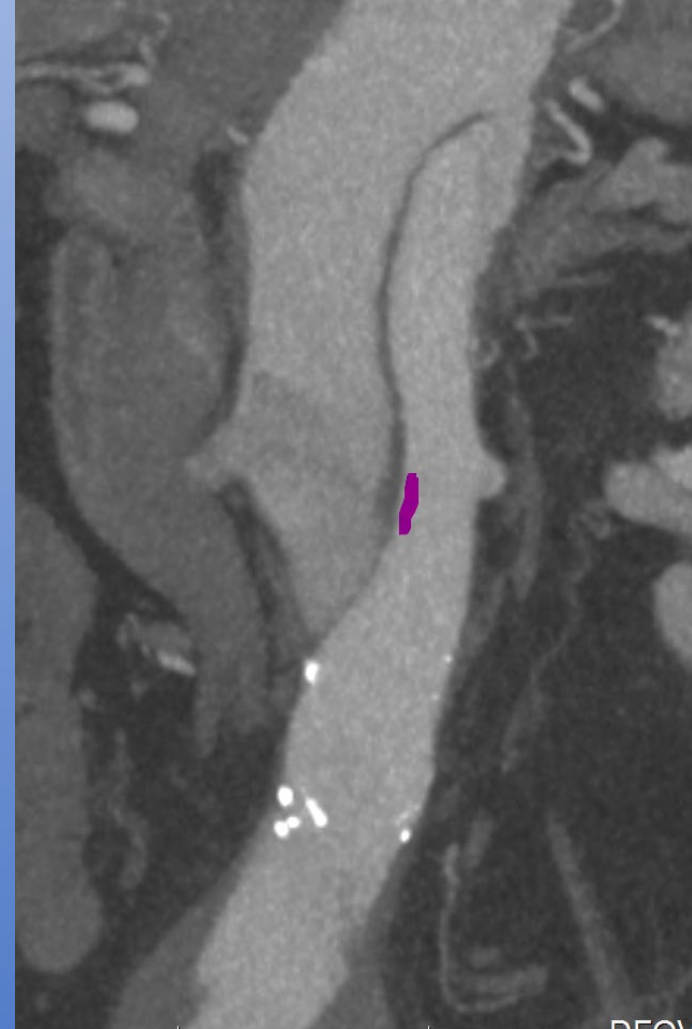
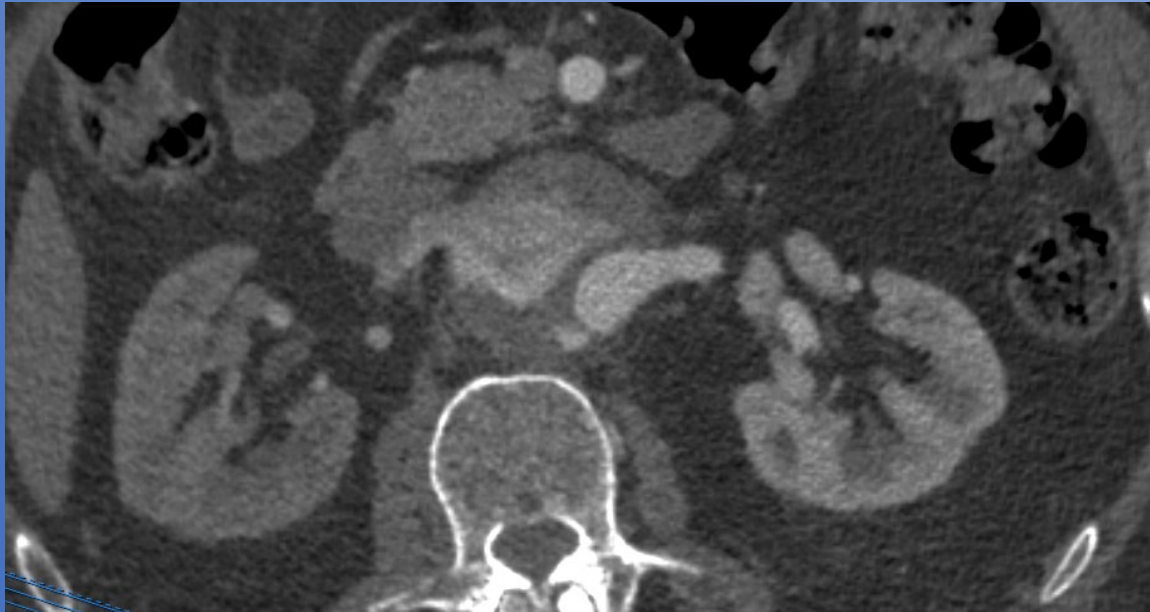
Target Vessel arises from False Lumen

- If the natural fenestration is obvious on CT and at the same level of the target artery, plan the graft fenestration align with the natural fenestration



Target Vessel arises from False Lumen

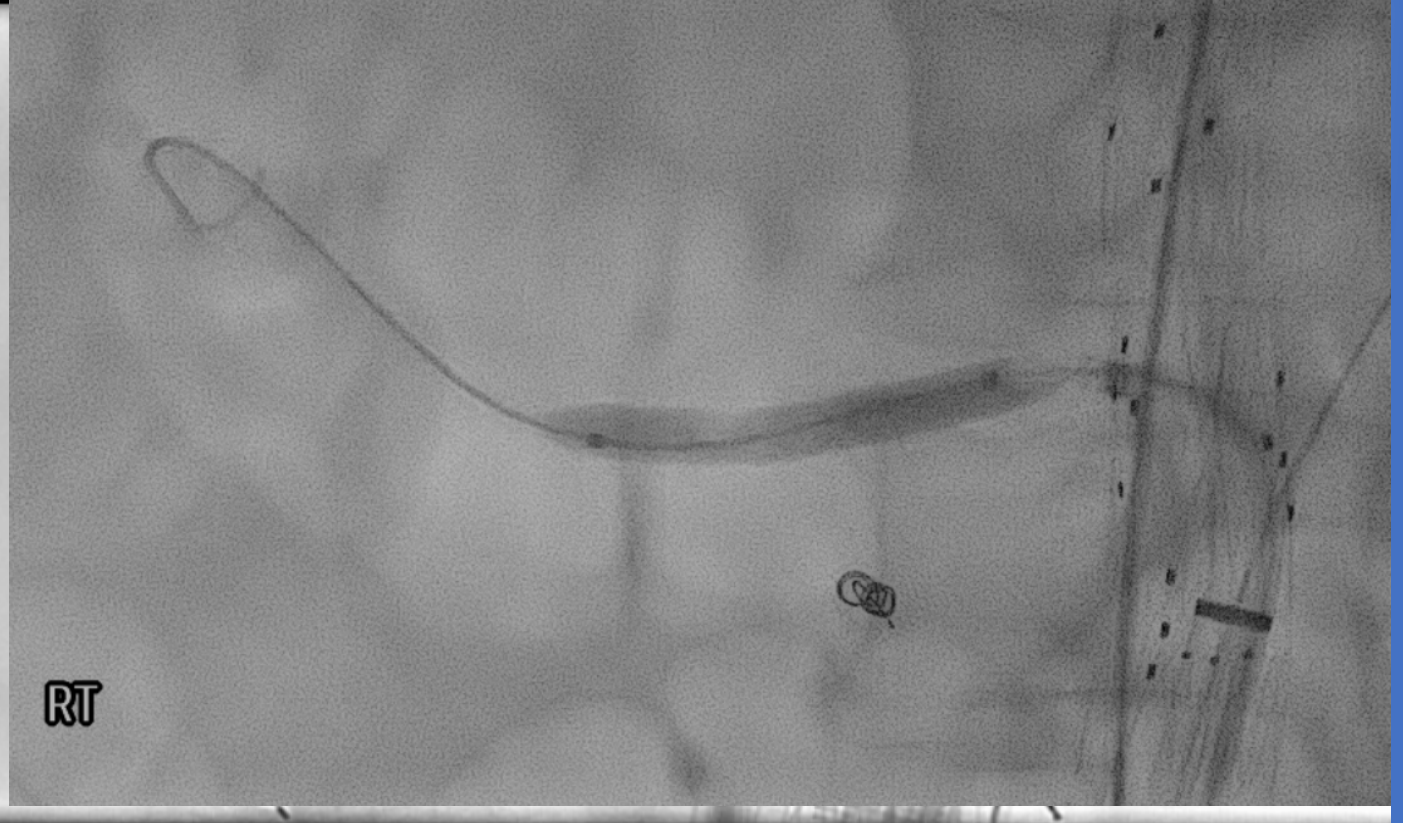
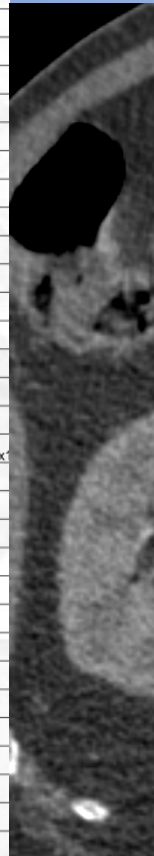
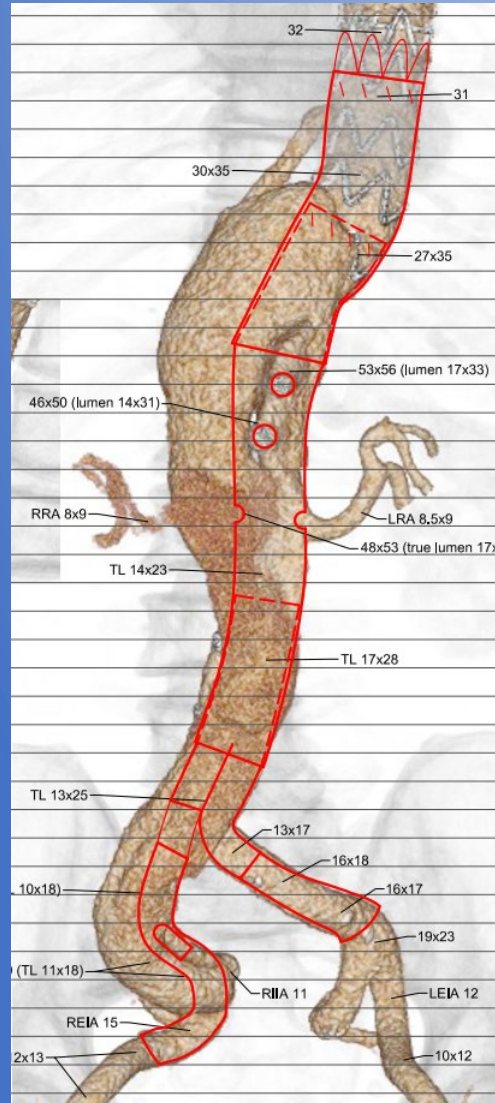
- If the natural fenestration is not visible on CT or located in unfavorable position in relation to the target vessel, plan for in-situ fenestration of the aortic flap



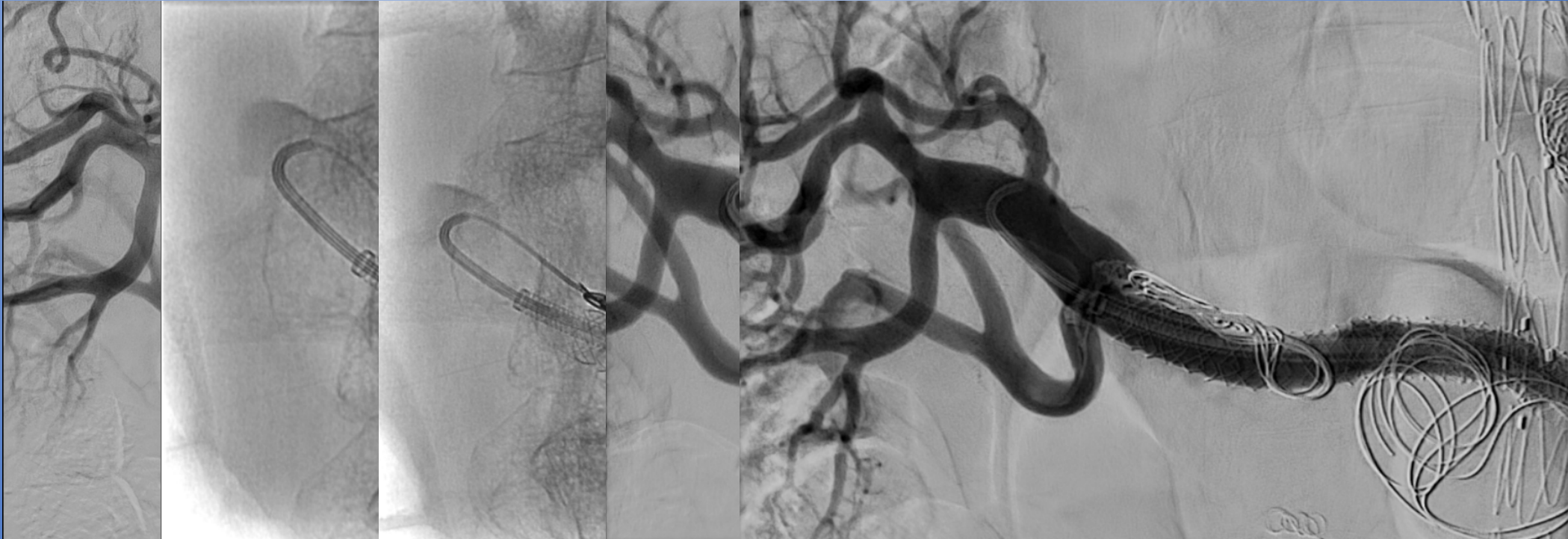
In-situ fenestration of aortic flap



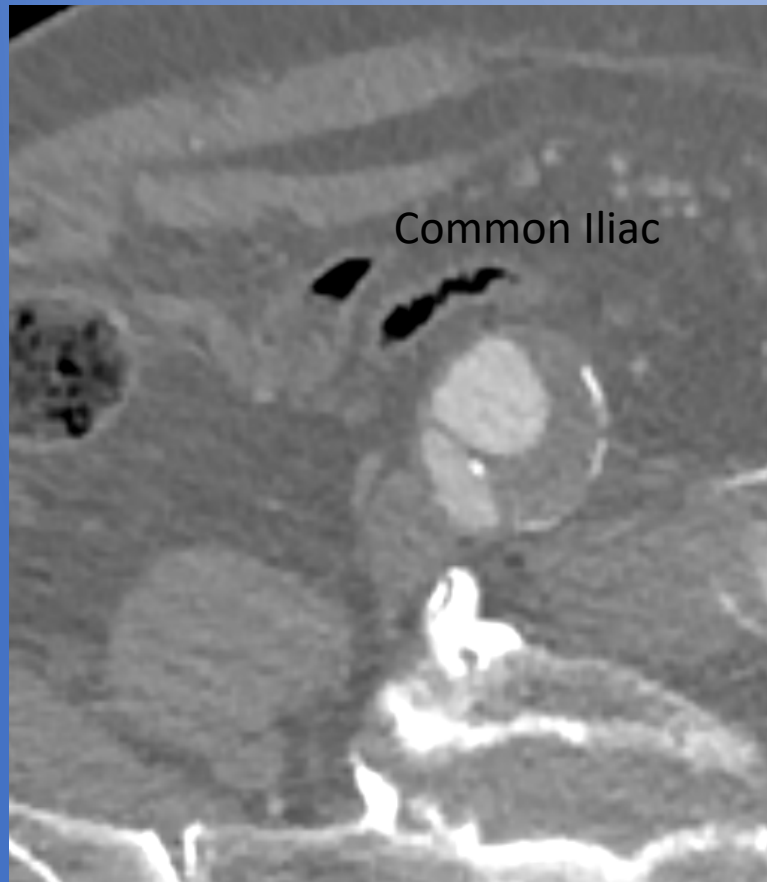
Back end V14 supported by Steerable Sheath



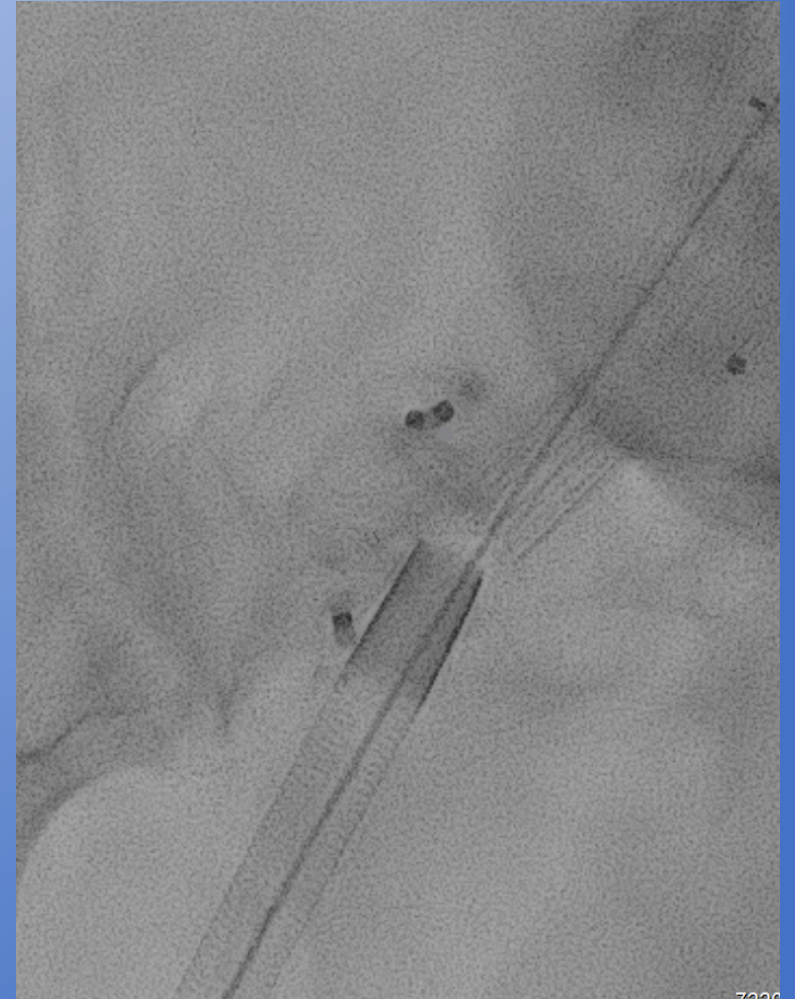
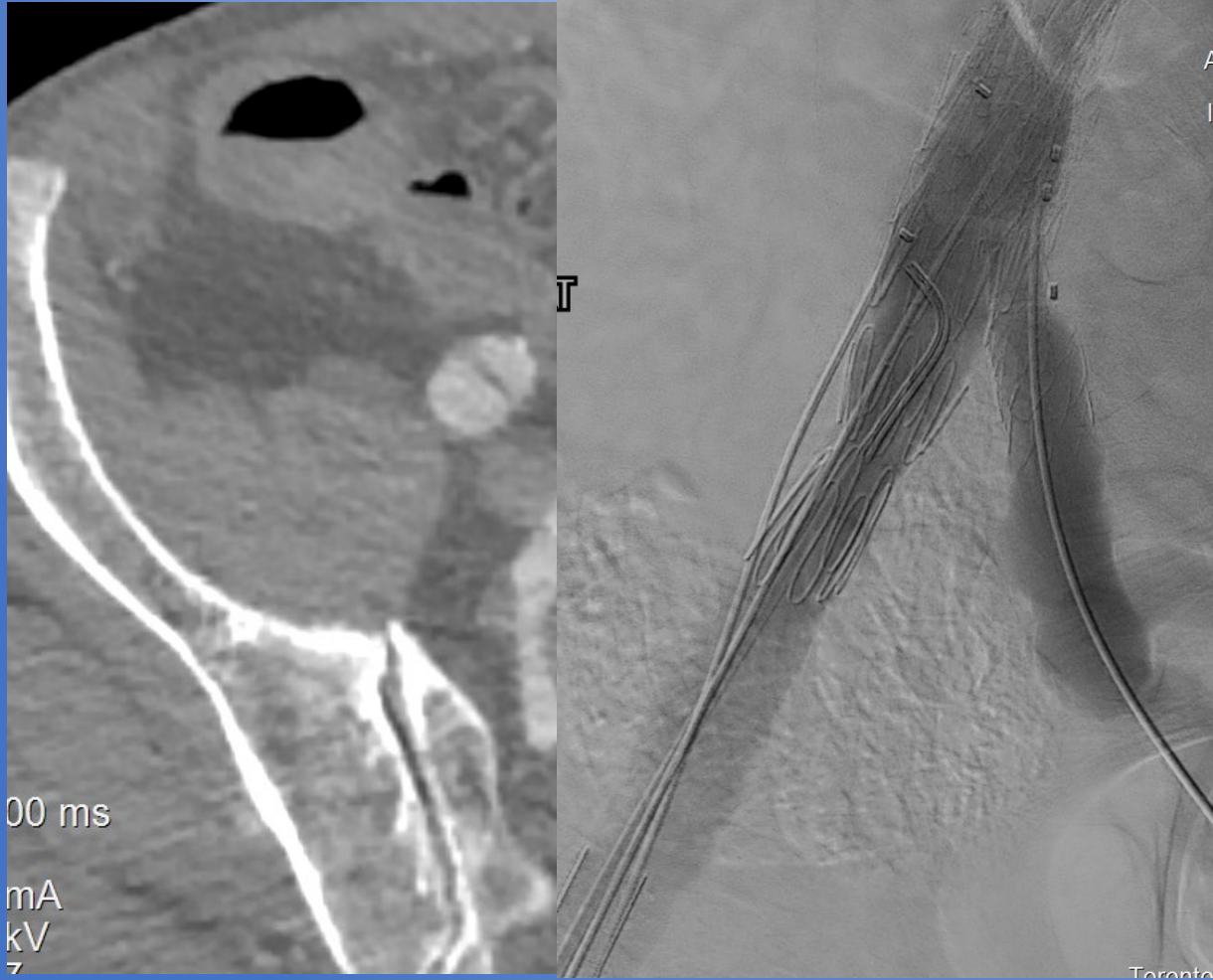
Coil false lumen to prevent stop endoleak



Dissection ends in CFA/SFA



Embolization of false lumen to stop retrograde endoleak



Type 2 endoleaks



Post Dissection Aneurysm F/B Graft

- Extensive coverage – Stage repair
- Small True Lumen – Not an issue
- Target vessel from False Lumen – Back end of 0.014 wire or RF wire
- Large target vessel (> 12mm) – large stents
- Dissections extend deep into target arteries – stent deep beyond the reentry tear
- Dissections of Iliac arteries -iliac bifurcated grafts
- False lumen to CFA/SFA- embo false lumen of external iliac
- Type 2 endoleaks from hypertrophic lumbar/intercostals – lots of embo!!!

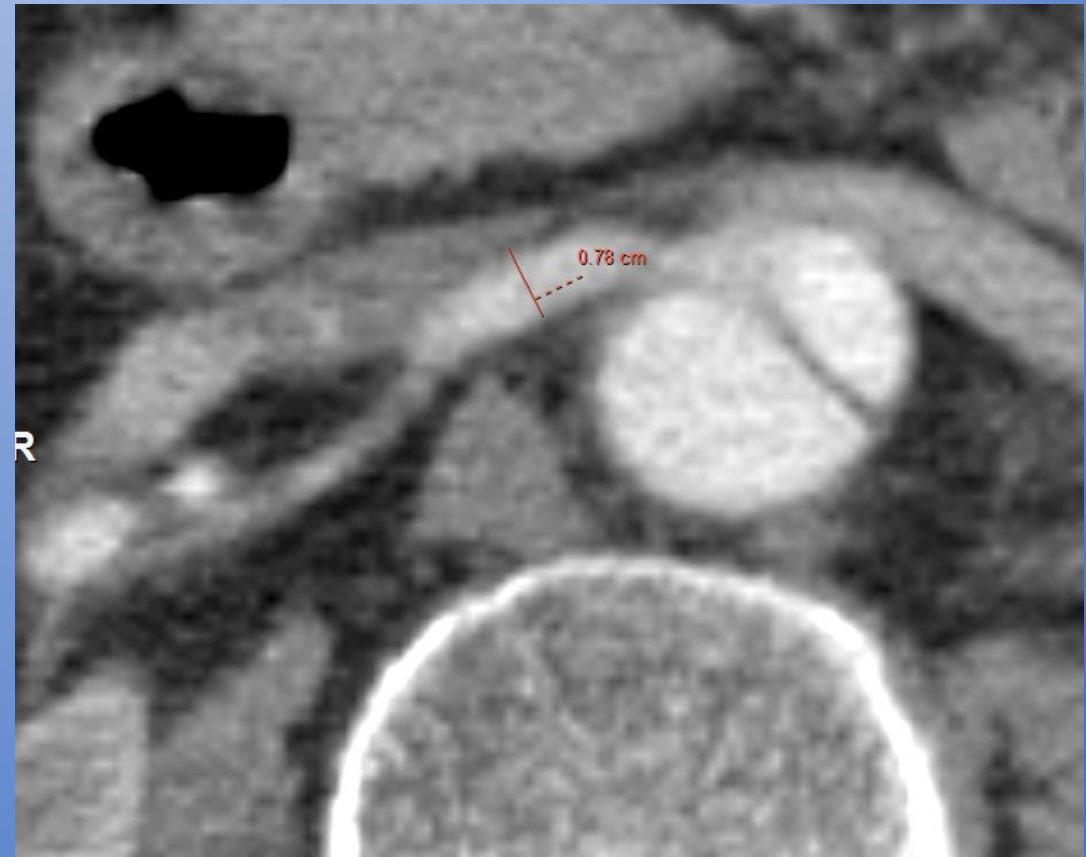
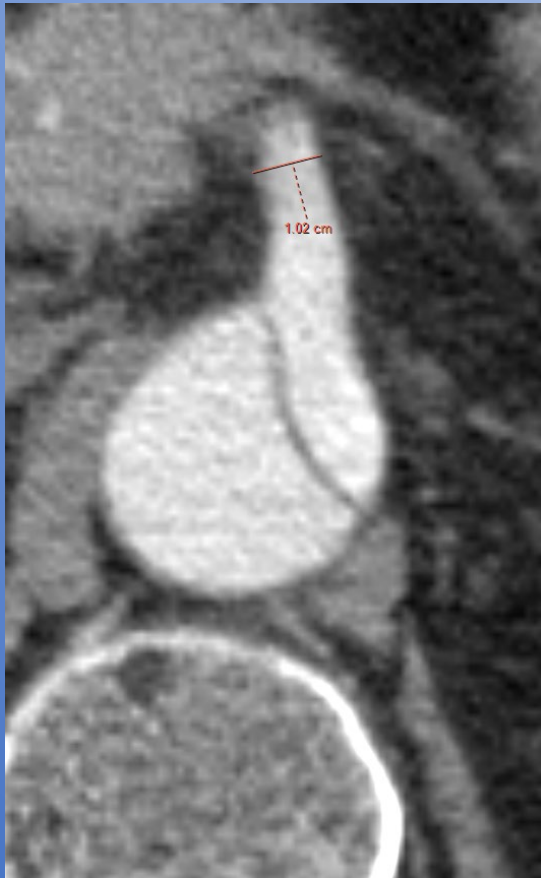
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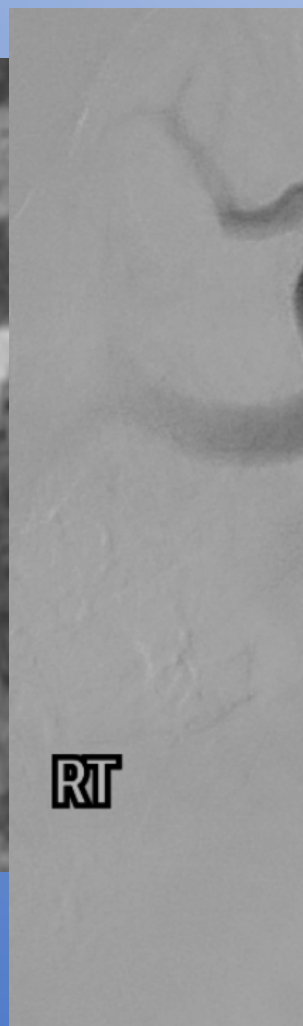
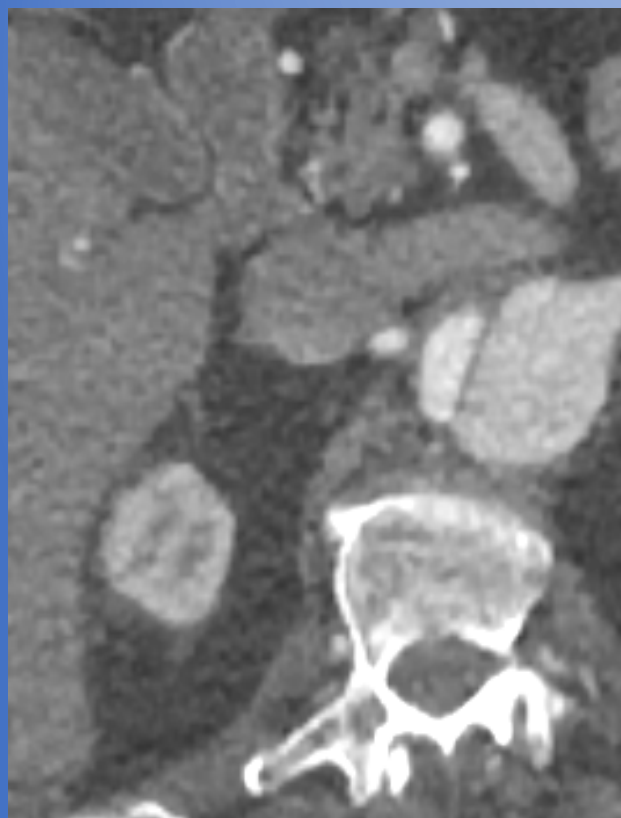
Thank You!



Feedback/Queries: kongteng.tan@uhn.ca

Large Target Vessels





RT

