AORTIC PERFORATION CAUSED BY TRANSSEPTAL PUNCTURE

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Disclosure

Nothing to disclose

Introduction

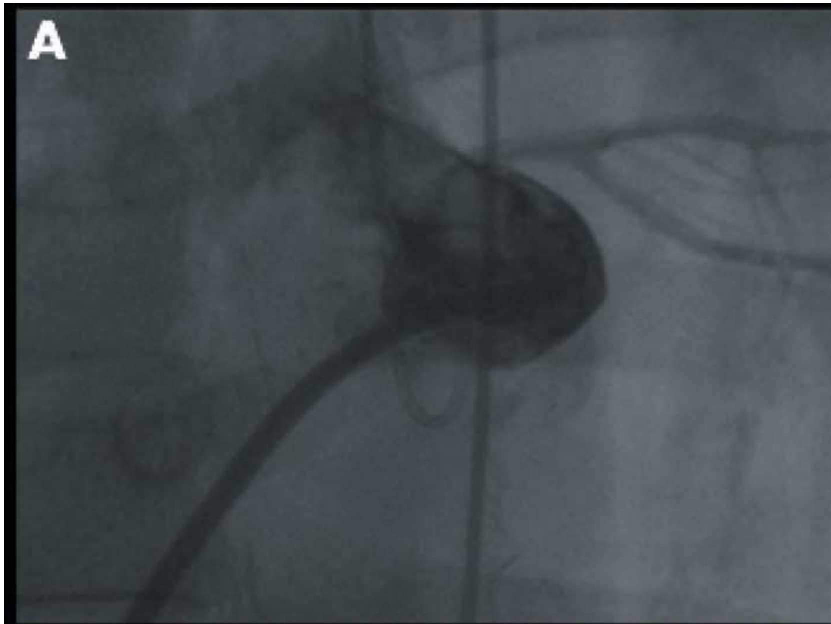
Transseptal Procedure

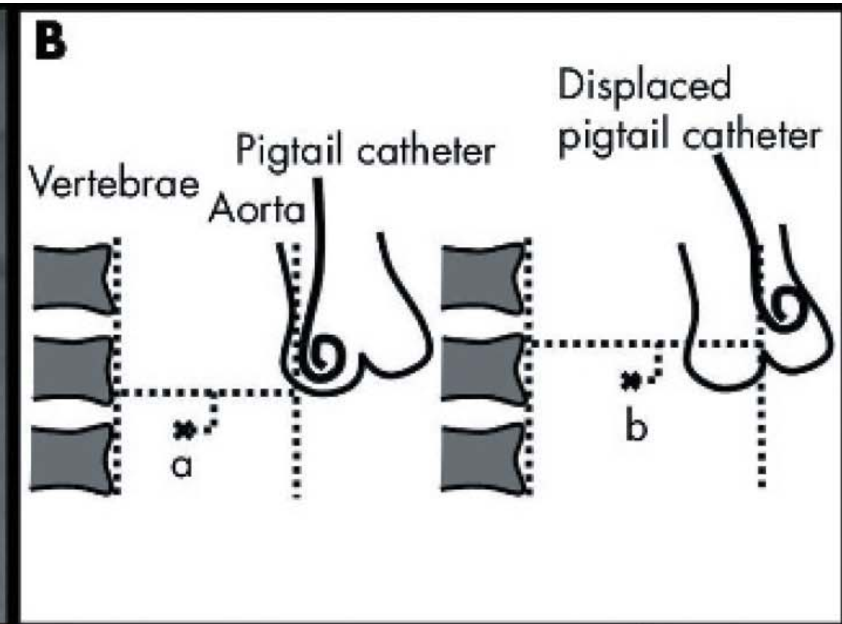
- Catheter ablation
  - Left side AP
  - AF ablation
- PTMC
- Mitral Clip
- Closure LAA

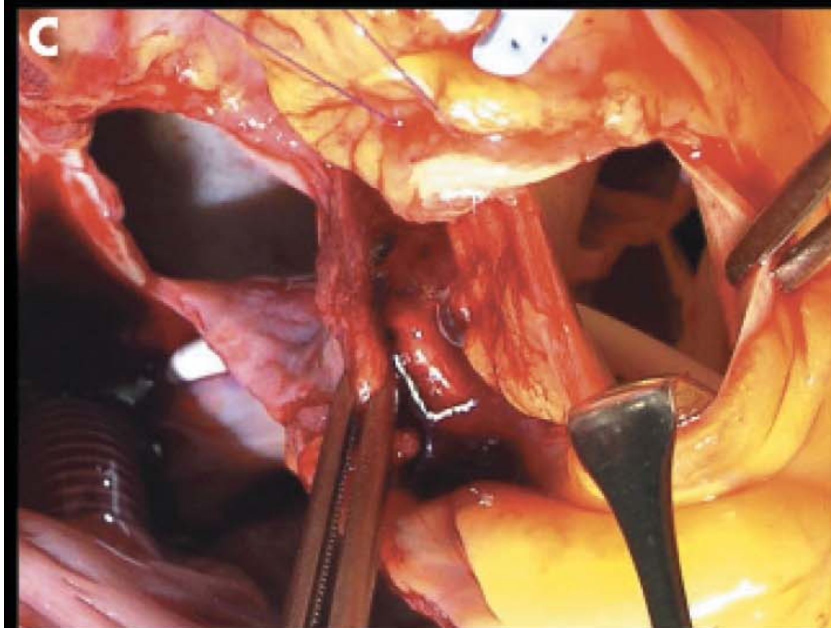
Major complication of transeptal puncture

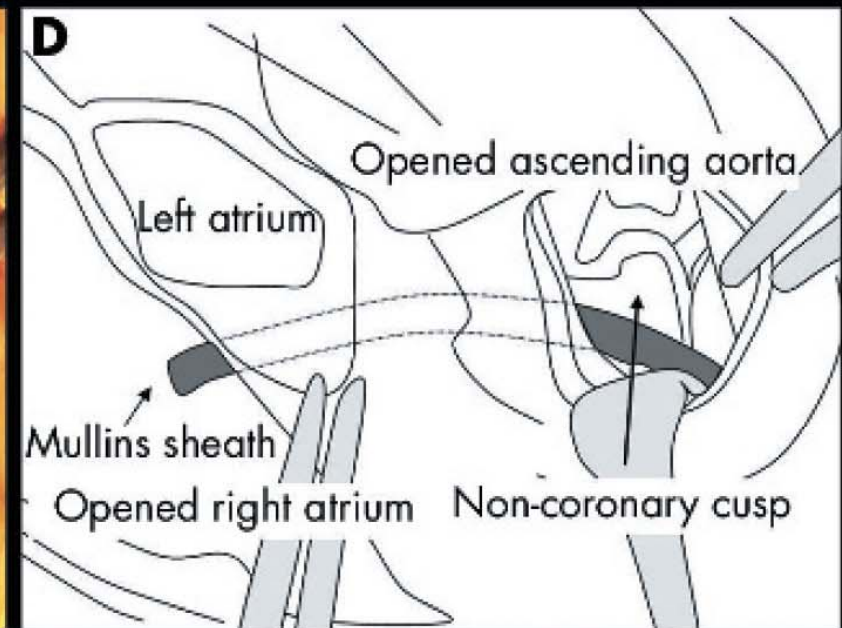
- Pericardial puncture (3.2%)
- Systemic arterial embolism (1.1%)
- Aortic puncture (0.7%)
- Perforation of IVC (0.4%).

B-Lundqvist C et al. ***Transseptal left heart catheterization: a review of 278 studies.*** *Clin Cardiol. 1986 Jan;9(1):21-6.*









Park JH et al. Heart 2006

Aortic root puncture as complication of transeptal puncture

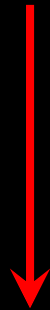
- This complication which always require an open heart surgery
- This is the first report of such complication which successfully sealed by Amplatzer Septal Occluder

•*Tseng CD et al. J Formos Med Assoc. 1997; 96: 272*
•*Joseph et al. Cathet Cardiovasc Interv. 1997; 42: 138*
•*Shalganof et al. Cardiovasc Ultrasound. 2005; 3: 5*

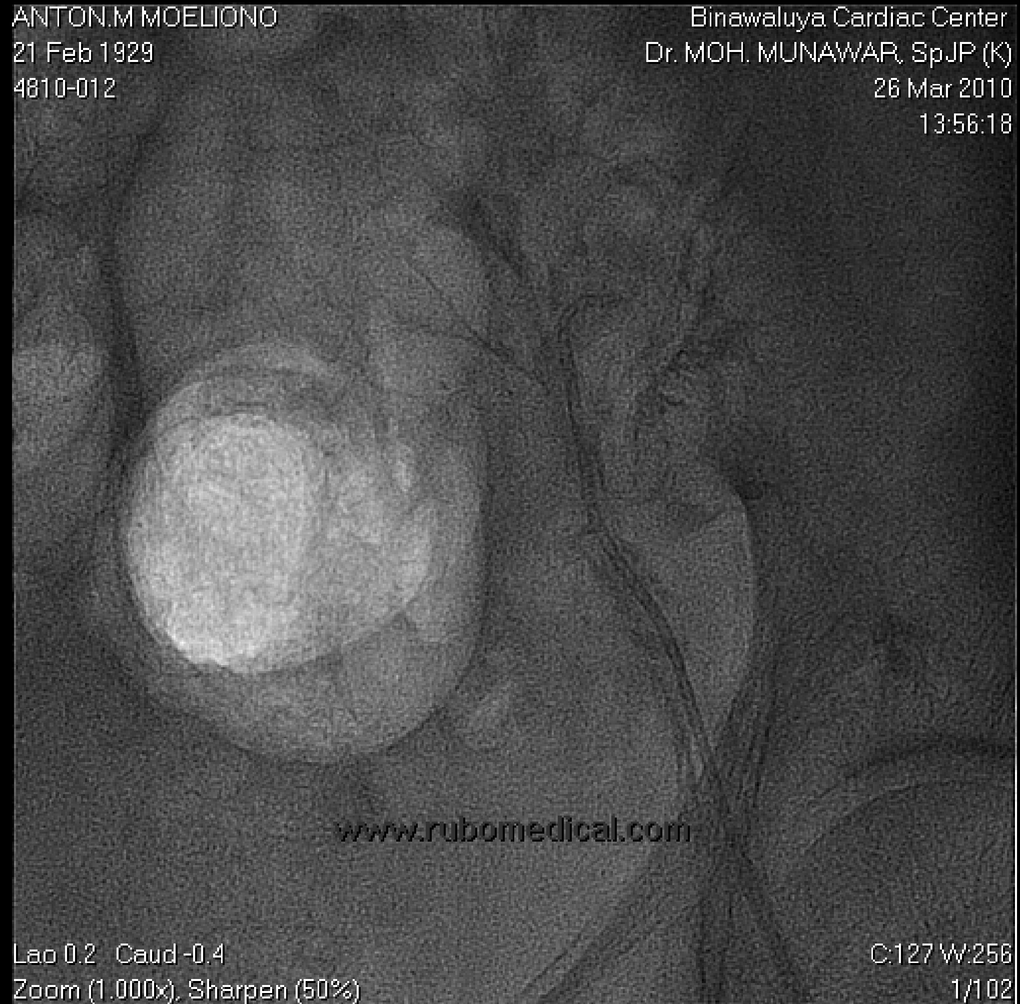
Case Report

- An 85 year-old man with short of breath for couples of months
- He was diagnosed as having MS with MVA of 1.1 cm2 and heavily calcified of mitral annulus. Its leaflets was pliable
- He had DM and claudicatio intermittent due to peripheral artery disease
- He was planned for PTMC

Pts had limb ischemia bilateral

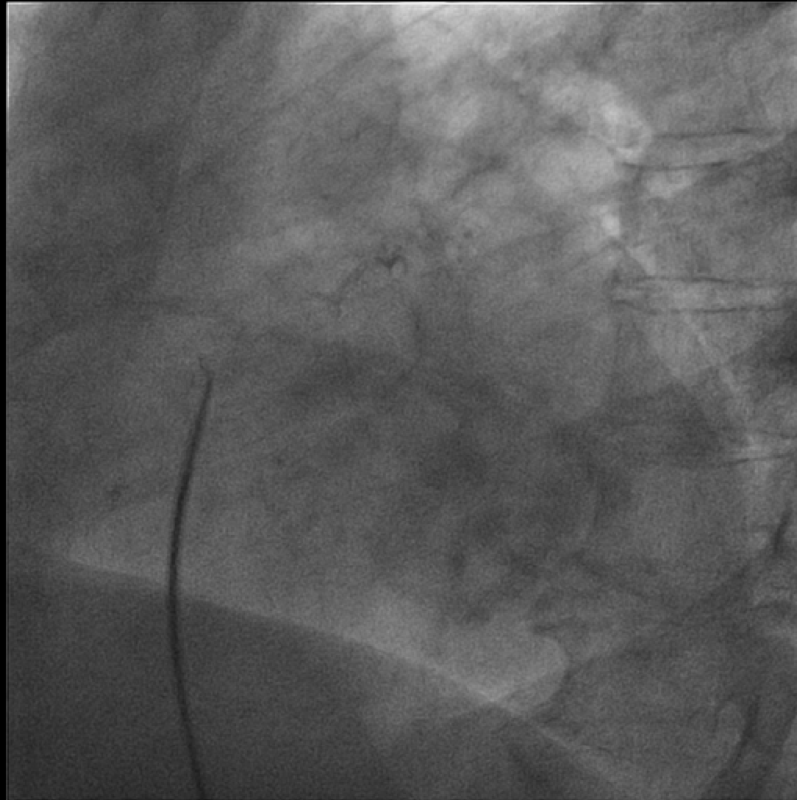


Not able to put Reference Pig-tail in Aorta !!!

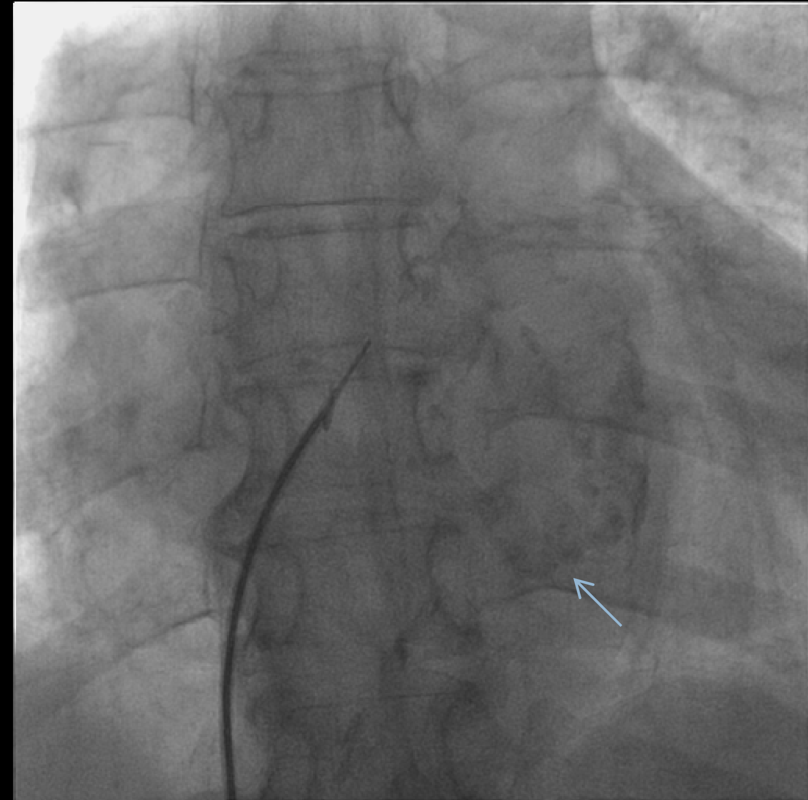


Inter-atrial septum puncture

LAO 60^0

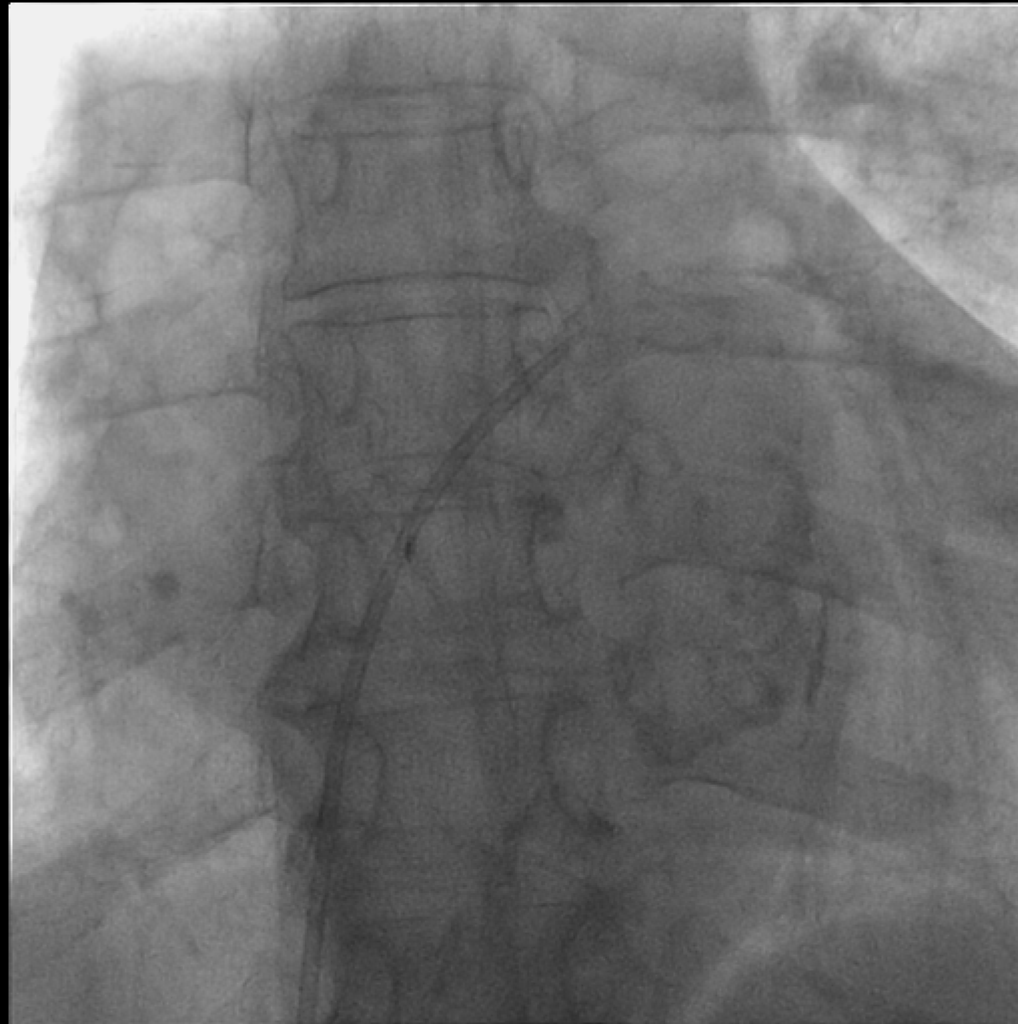


AP



Heavily calcified mitral stenosis (arrow)

AP



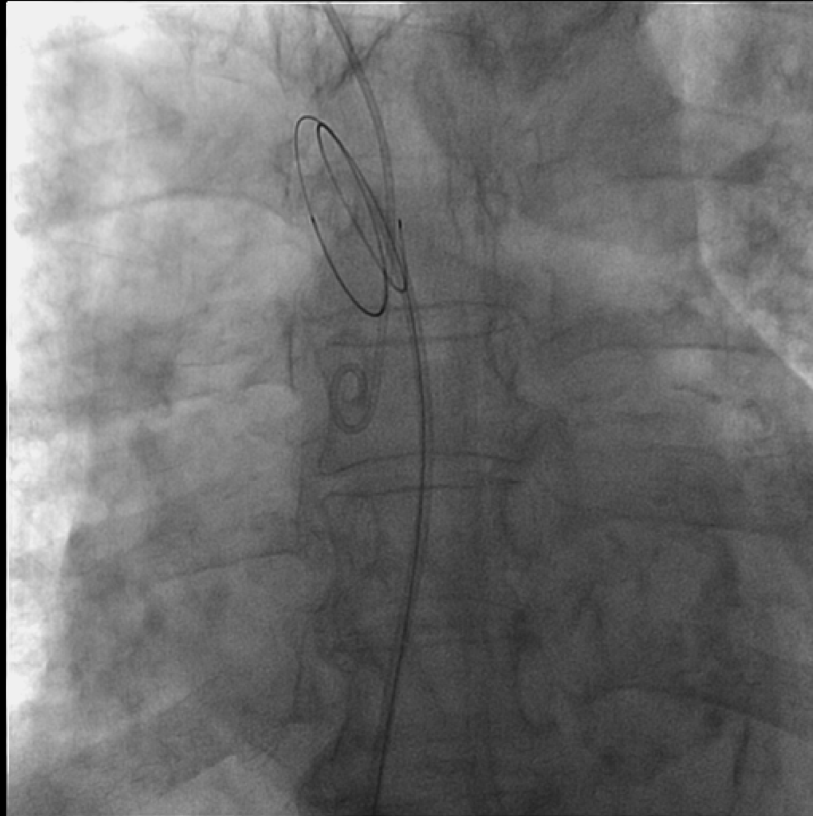
Ooop !!!!!!! What's happening?

What should we do?

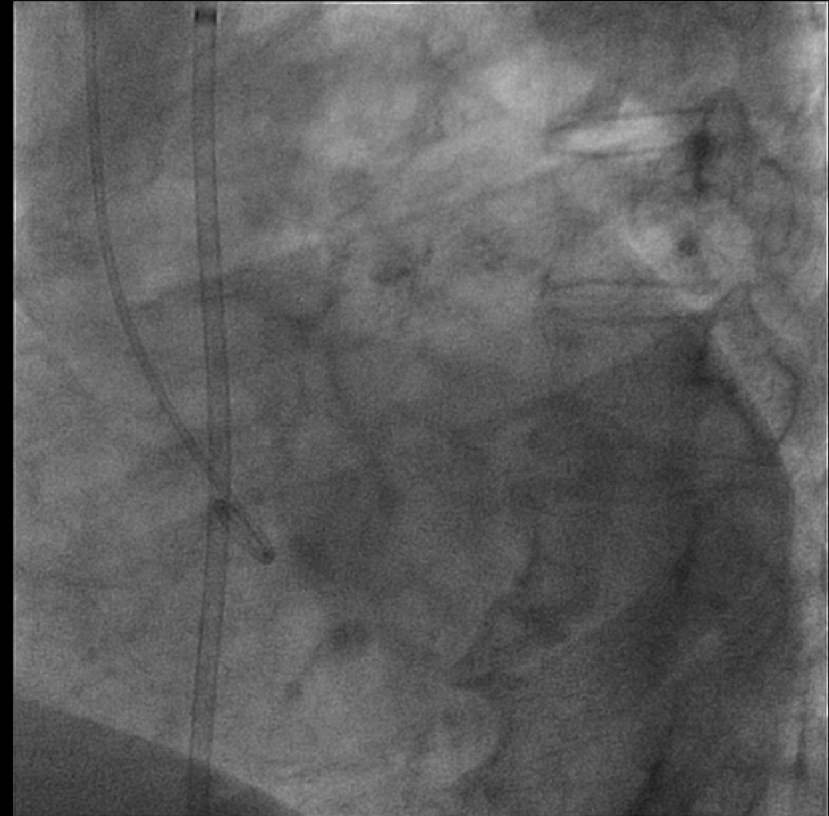
- Send to surgery
- Pull out the catheter and pericardiocenthesis until closed spontaneous
- What next ?

Try to seal the defect?

AP

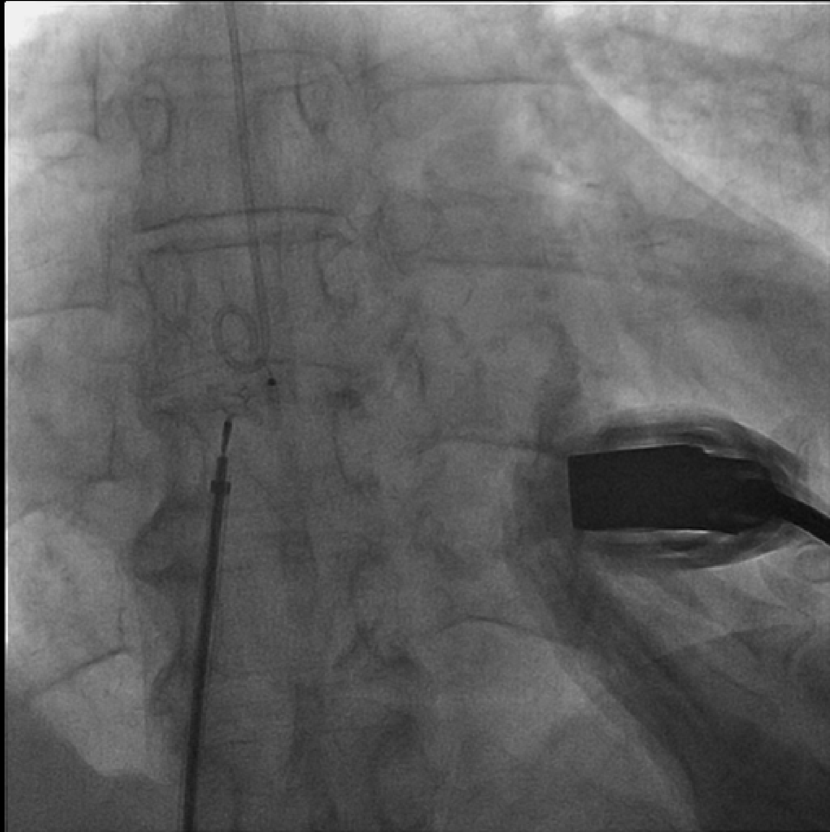


LAO 30^0 - 45^0



Inoue's wire put into aorta via the iatrogenic hole (arrow)

AP



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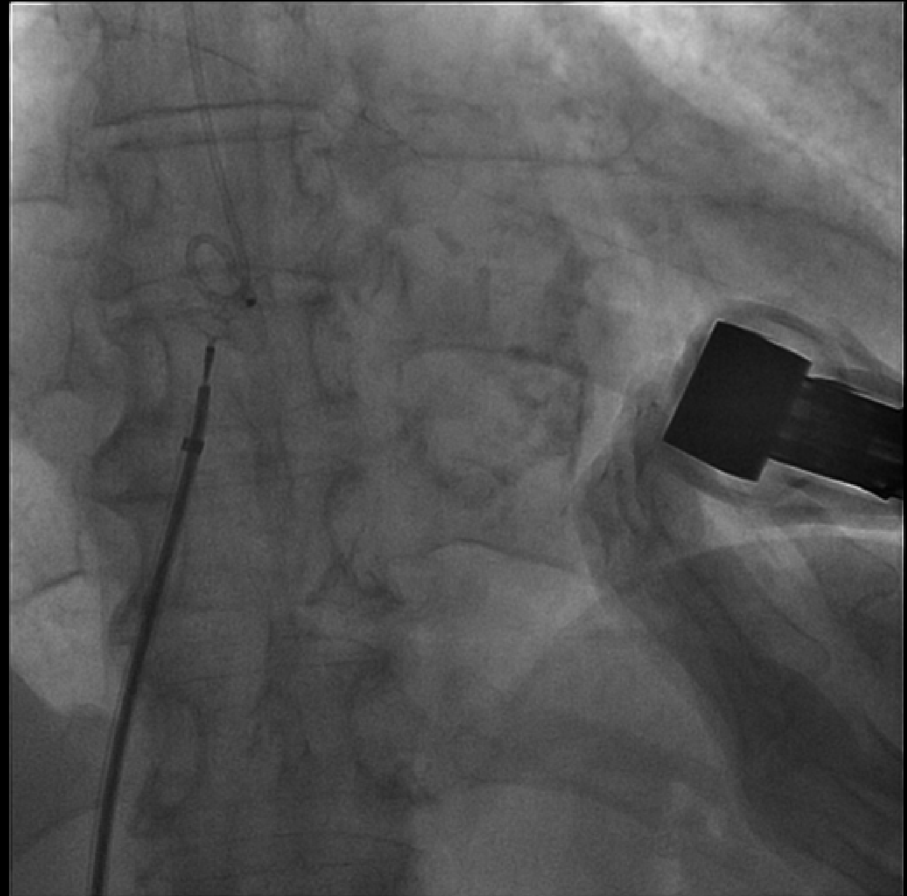
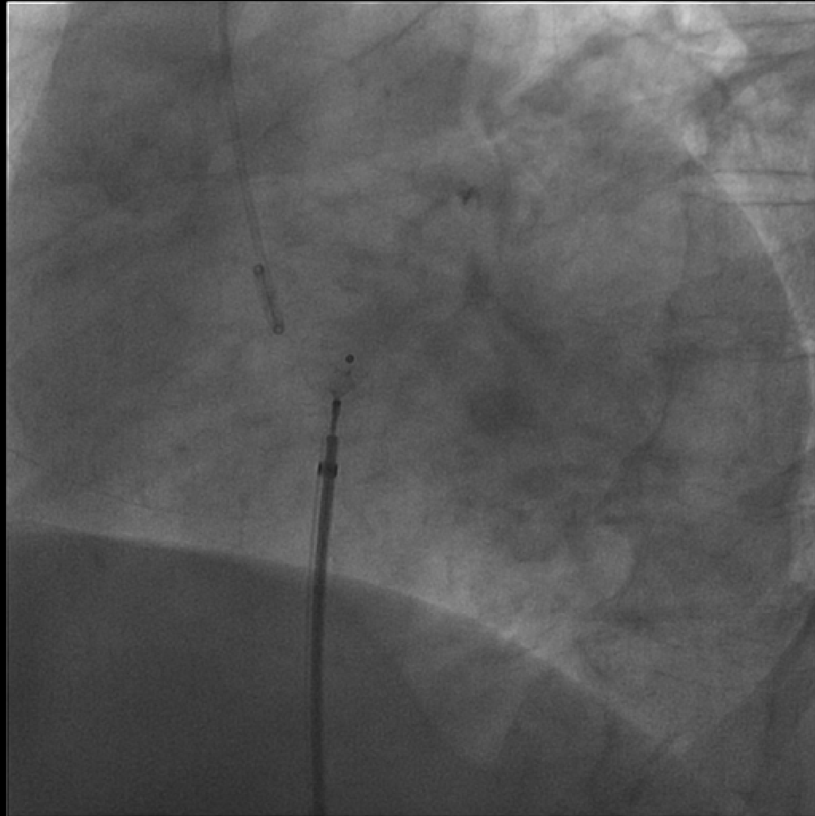
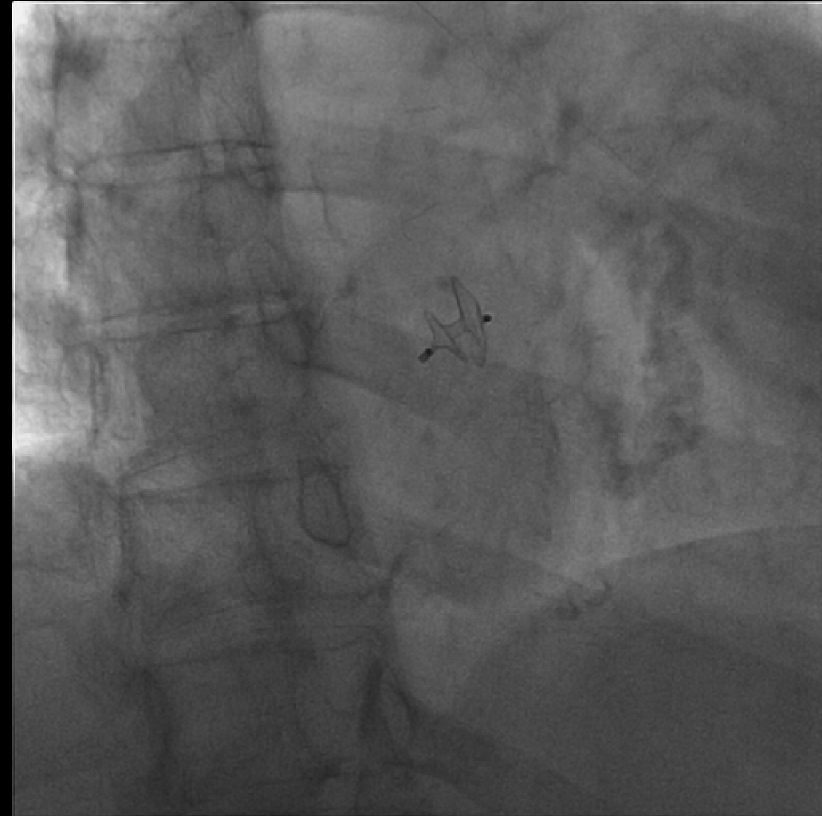


Put 4 mm ASO and controlled by Transthoracic echocardiography

LAO 45



RAO 30



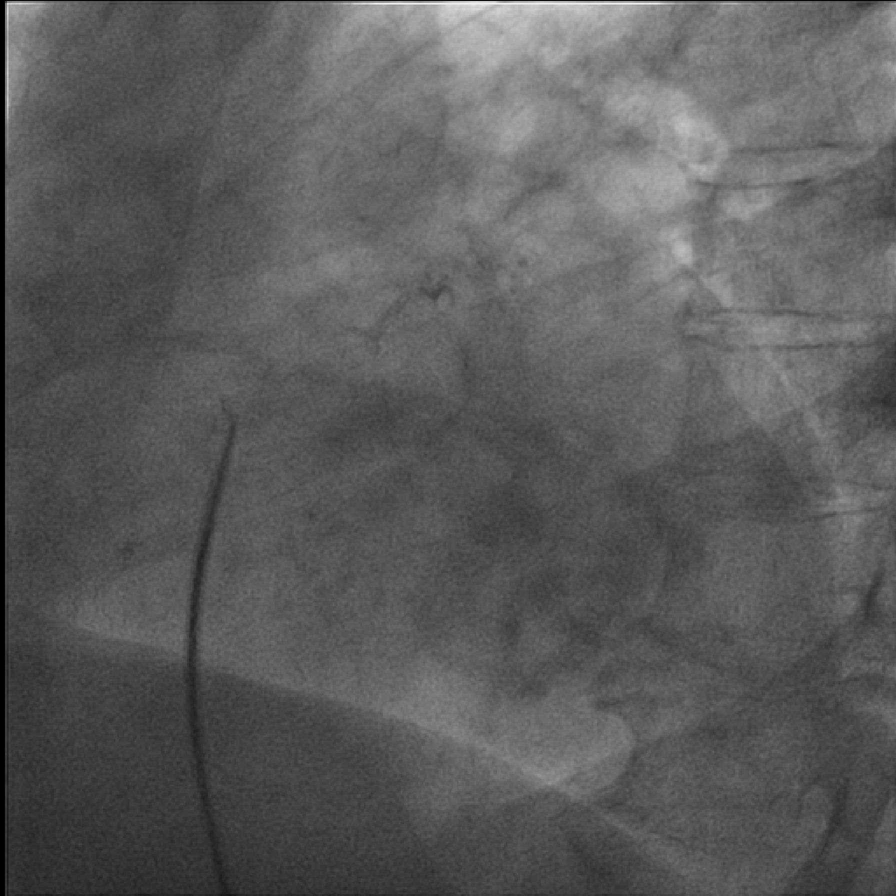
Release of the Amplatzer Occluder

Follow Up

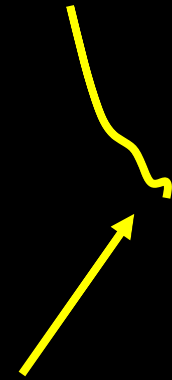
- Discharged on 3rd day ; no complication.
- Rx / Aspirin 160 mg
  Clopidogrel 75 mg → for 6 month
- Echocardiography in the 1st month, 3rd month and 6th month follow up
  - Good position of ASO
  - No residual flow

Take Home Message

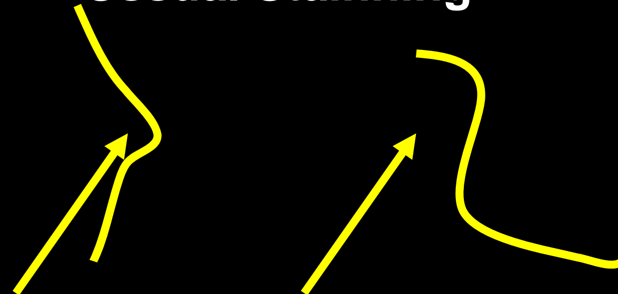
- Use anatomical landmark : pigtail in aorta, coronary sinus catheter, RA-LA graphy, etc.
- Precautious during transeptal procedure, esp before advancing the sheath. Needle puncture will seal itself.
- Don't pull out the sheath after insertion to the aorta
- Surgery is still the best option, however, sealed with an occluder device could be an alternative.

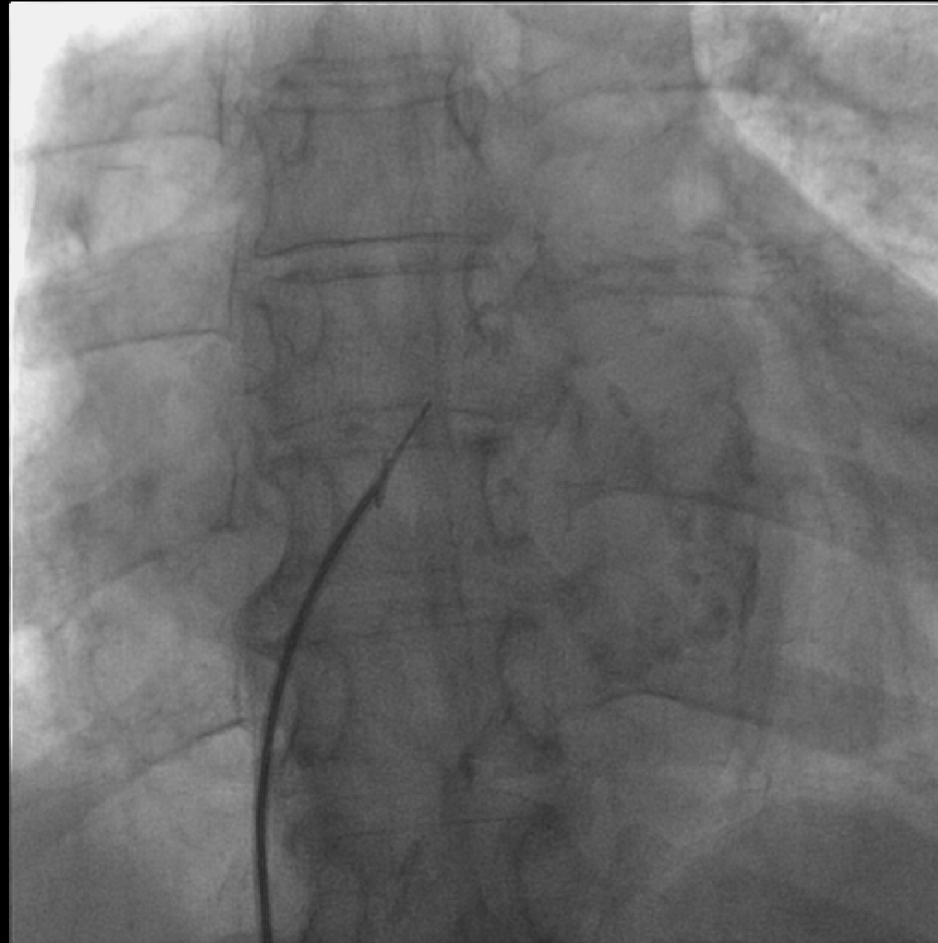


Stainning



Ussual Stainning





If you look very carefully, the contrast was within aorta

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