

Percutaneous Closure of Mitral Perivalvular Leaks with Amplatzer Duct Occluder

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BACKGROUND

- ◆ The incidence of perivalvular leaks is variable (from 2% up to 17%)
- ◆ Surgical approach has traditionally considered the treatment of choice
- ◆ In high risk surgical patients an alternative approach has been sought

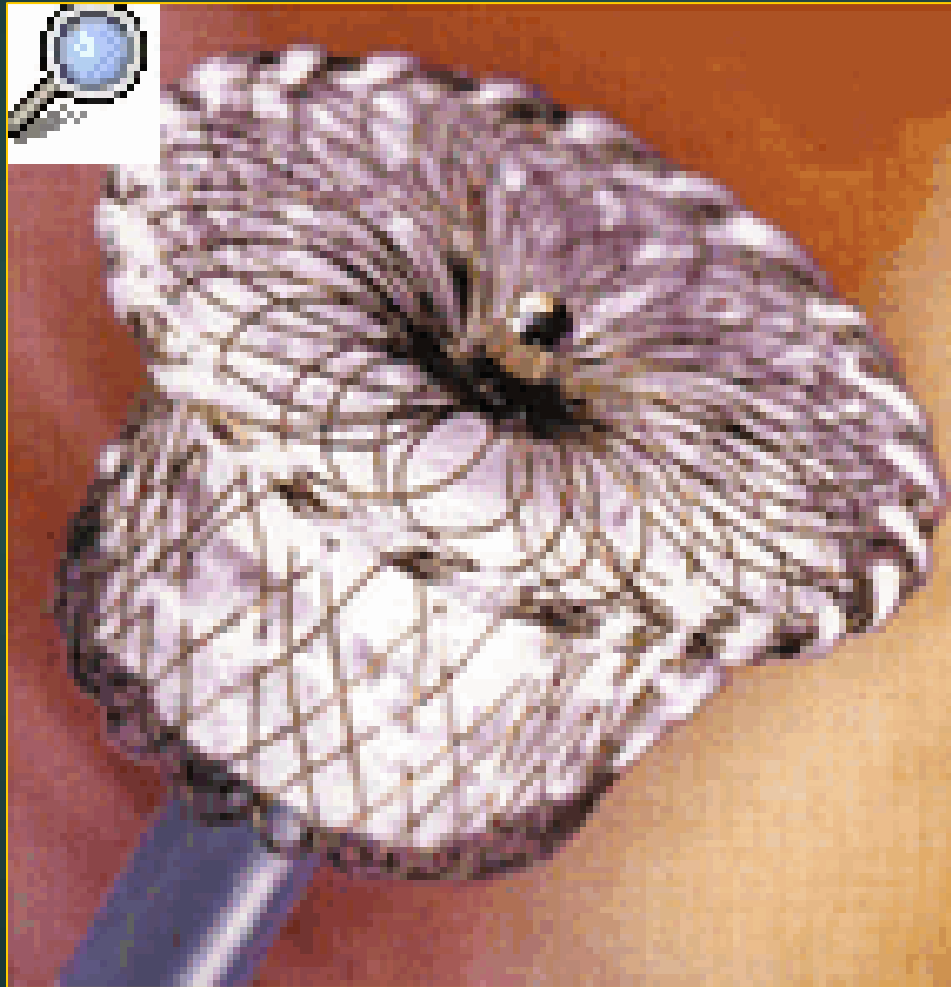
PERCUTANEOUS EXPERIENCE

n=28



Seoul, 2006

Ductus Amplatzer System



Seoul, 2006

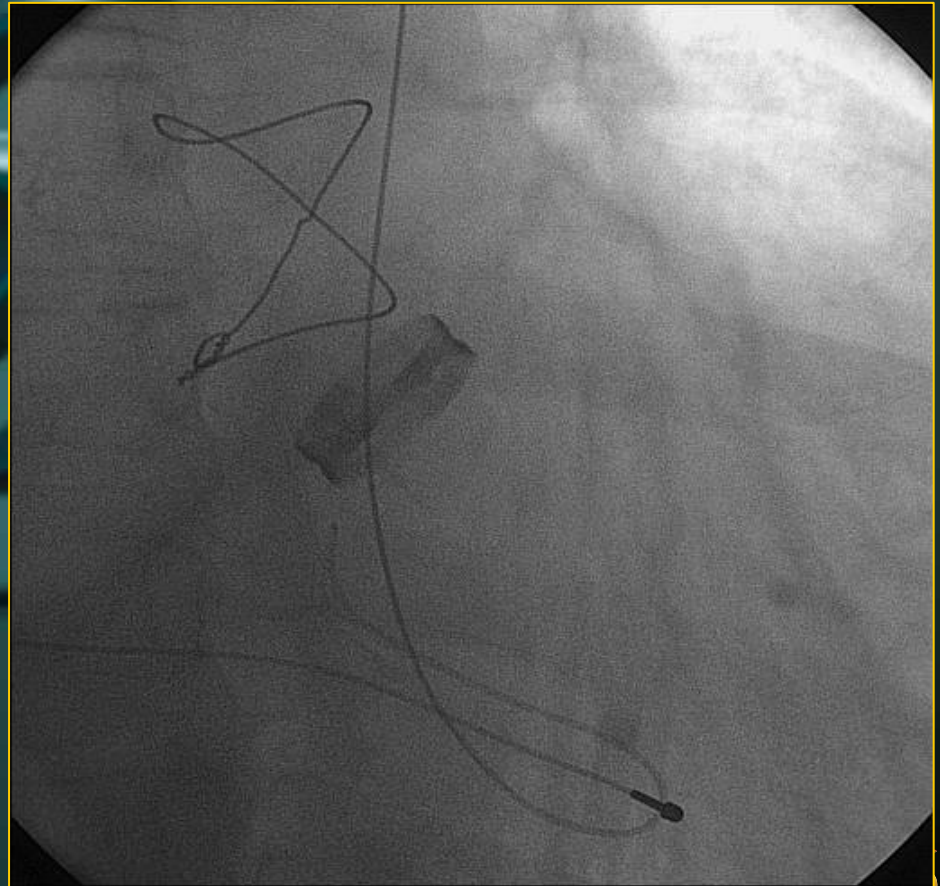
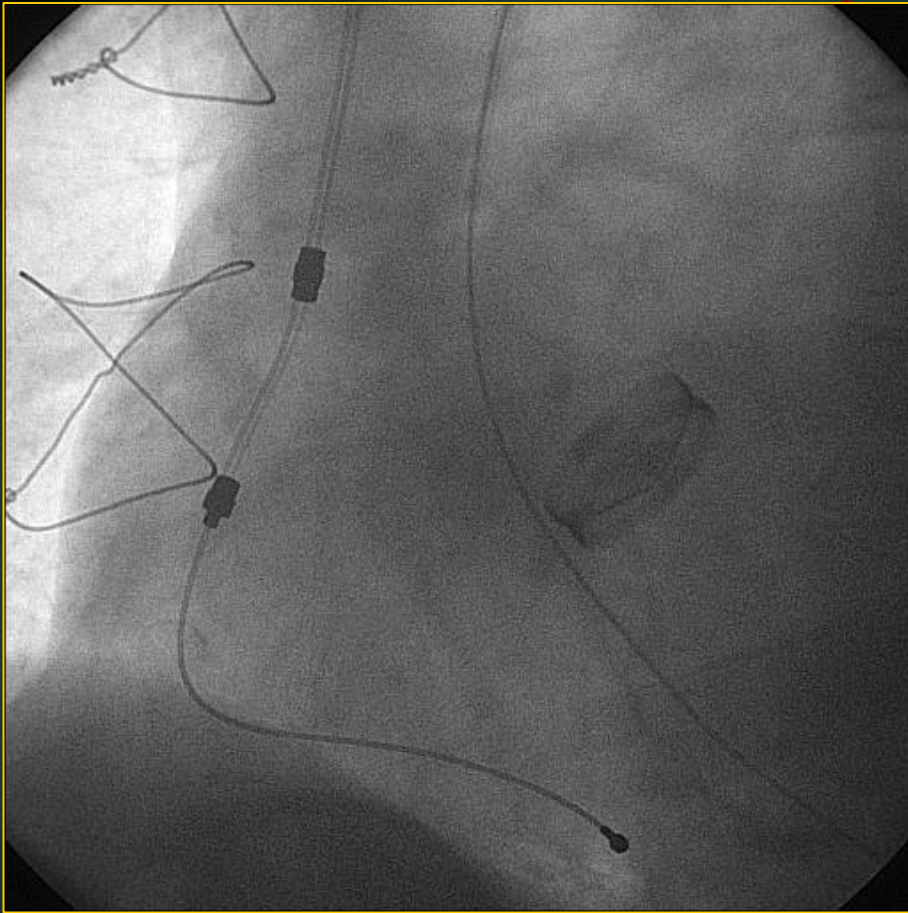
Patient Selection

- ◆ Congestive Heart Failure
- ◆ Hemolytic anemia
- ◆ Other prosthetic valve
- ◆ History of mediastinitis
- ◆ Euroscore > 6

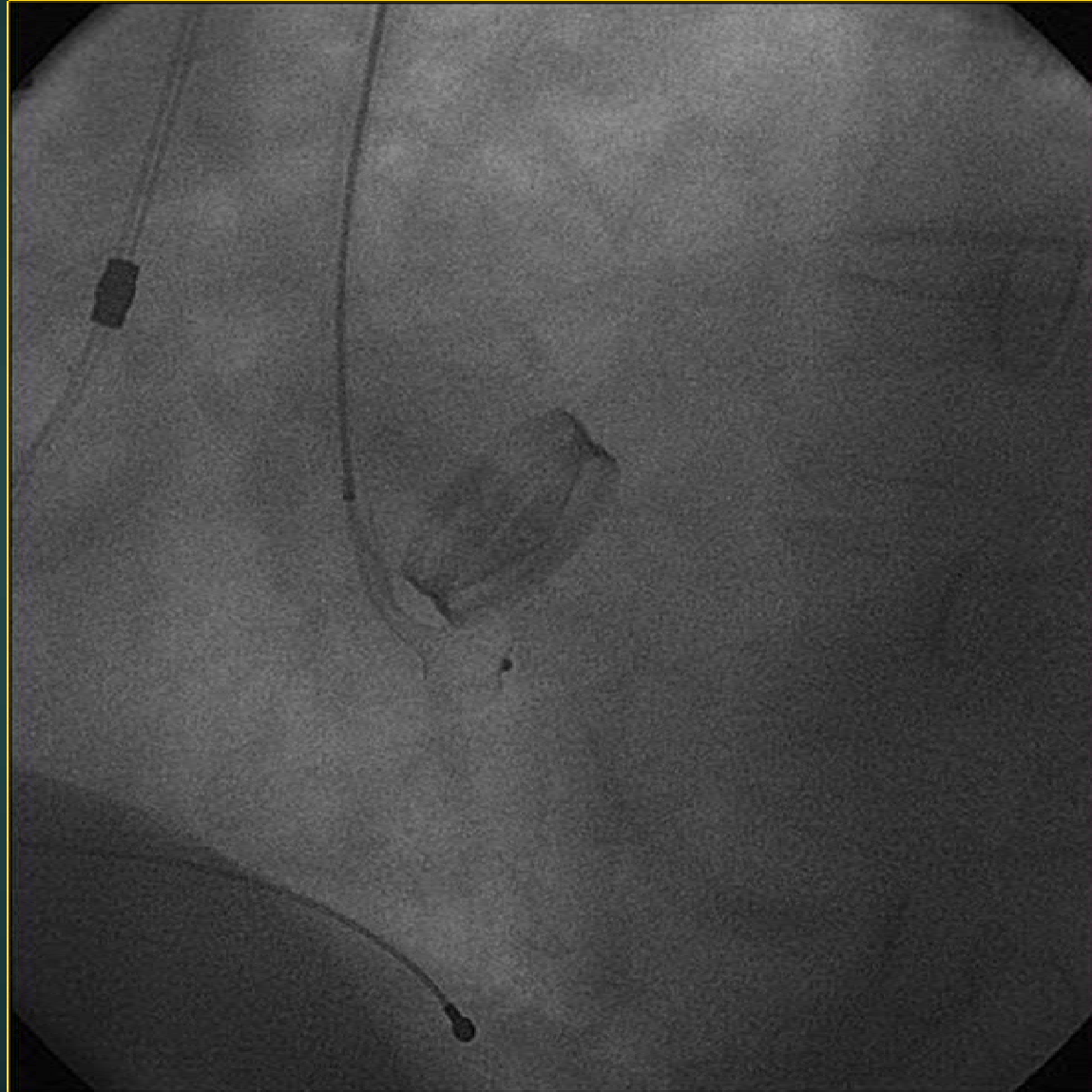
PROCEDURE (Ao Leak)

- ◆ Right braquial approach
- ◆ Aortogram
- ◆ Left ventricular access through the leak using a Terumo wire
- ◆ Multipurpose catheter to LV
- ◆ High support exchange wire
- ◆ Amplatzer sheath
- ◆ Amplatzer duct occluder device
- ◆ Aortogram

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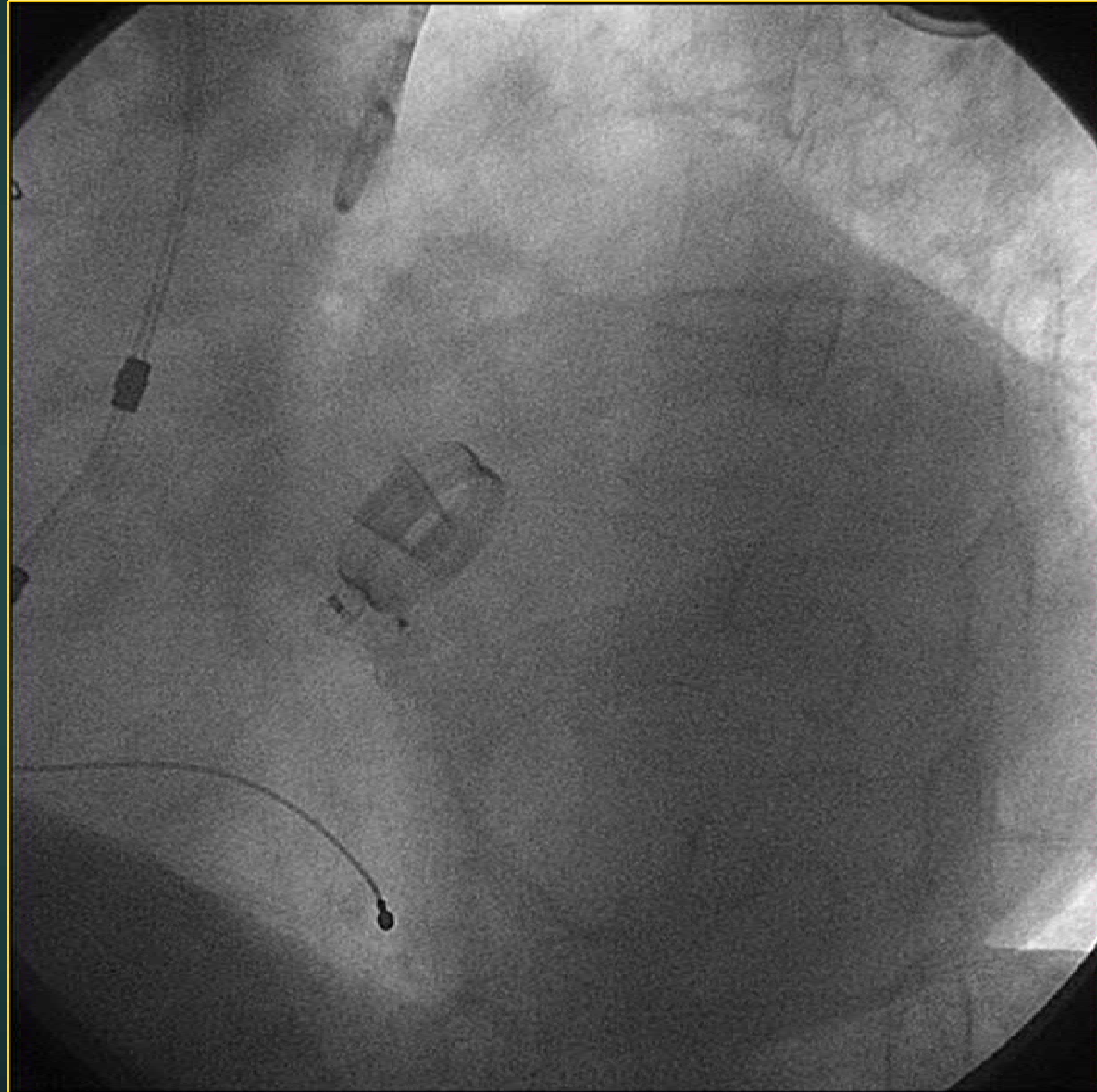


Paravalvular leaks



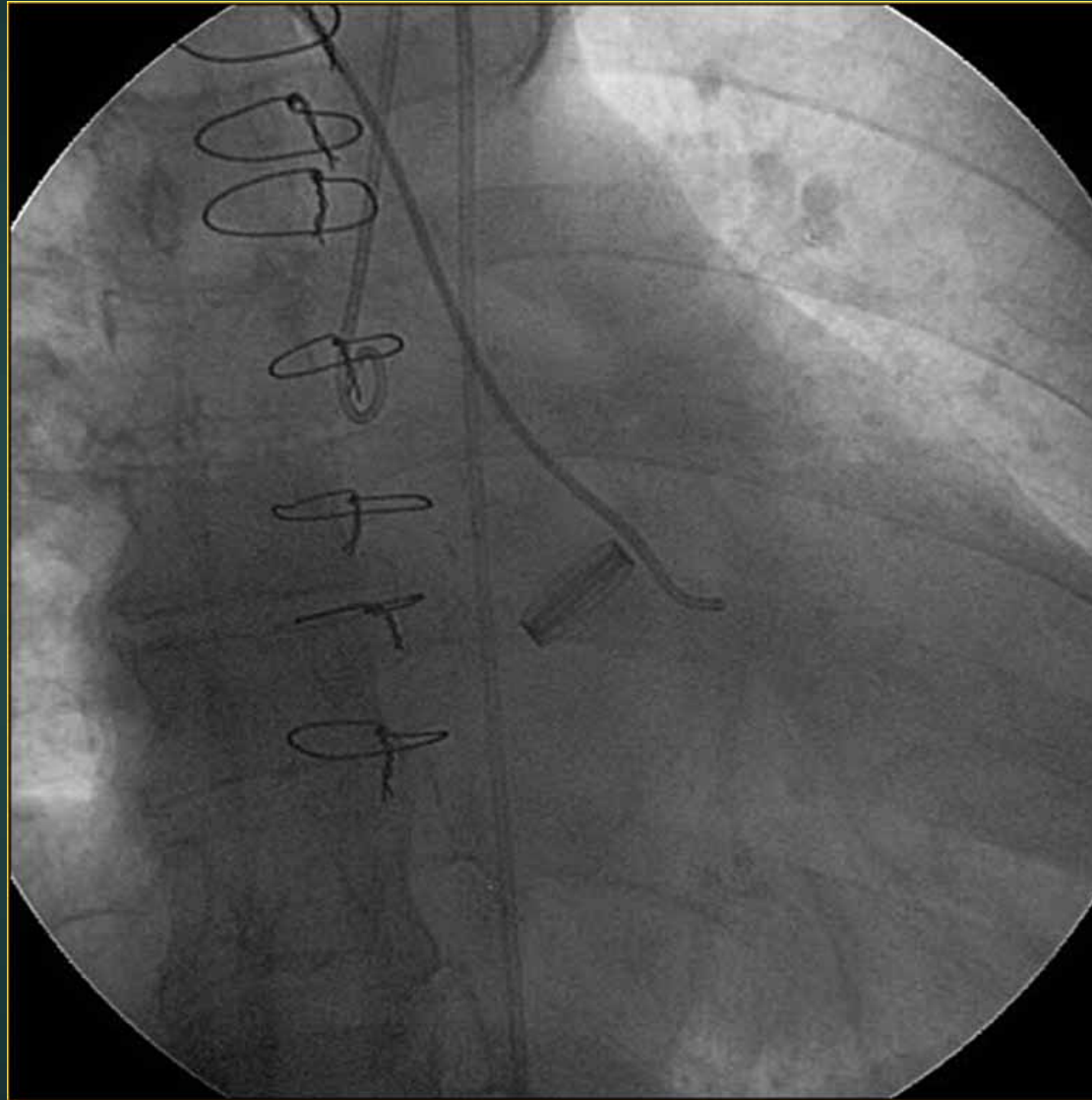
Seoul, 2006

Paravalvular leaks



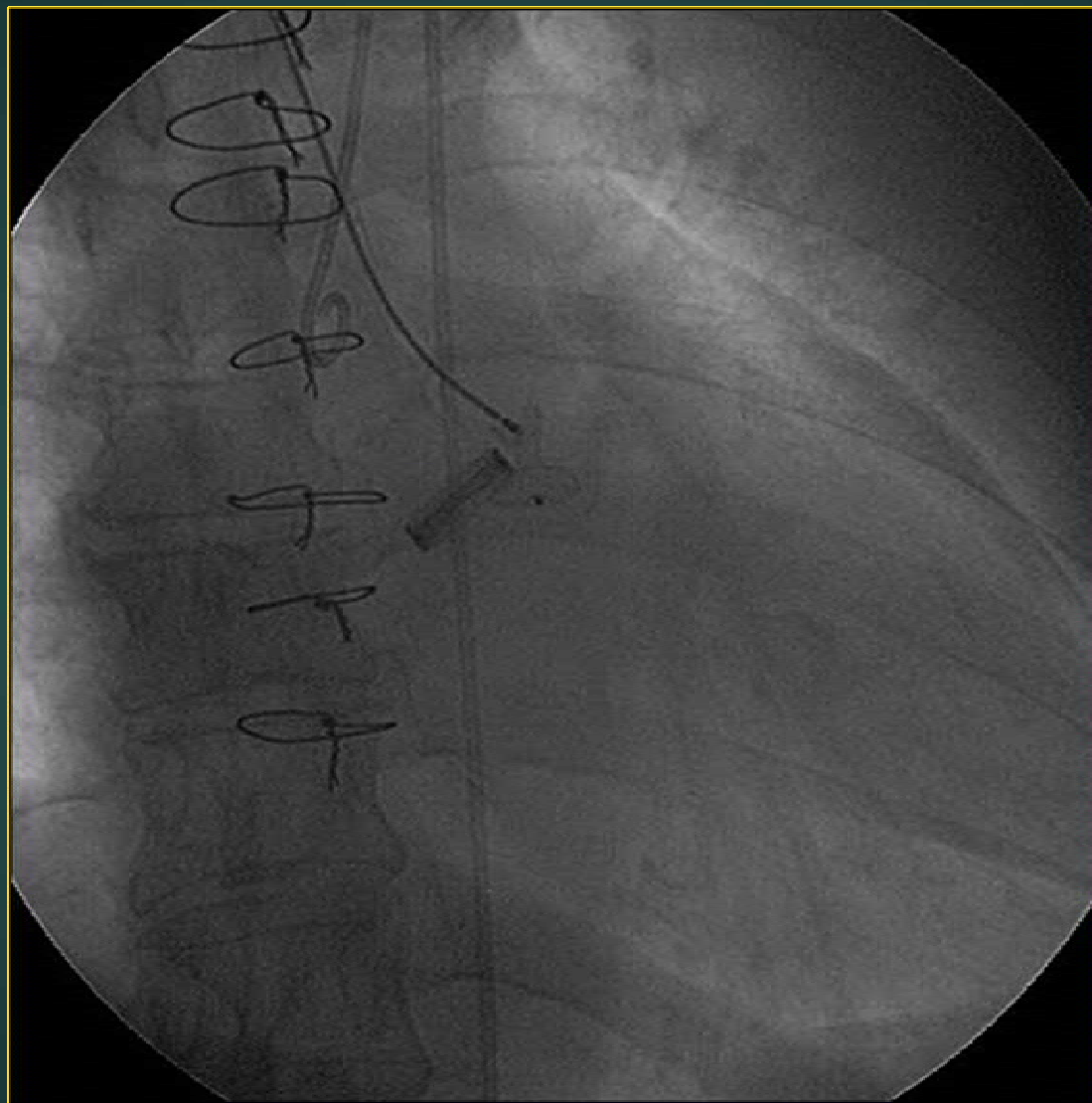
Seoul, 2006

Paravalvular leaks



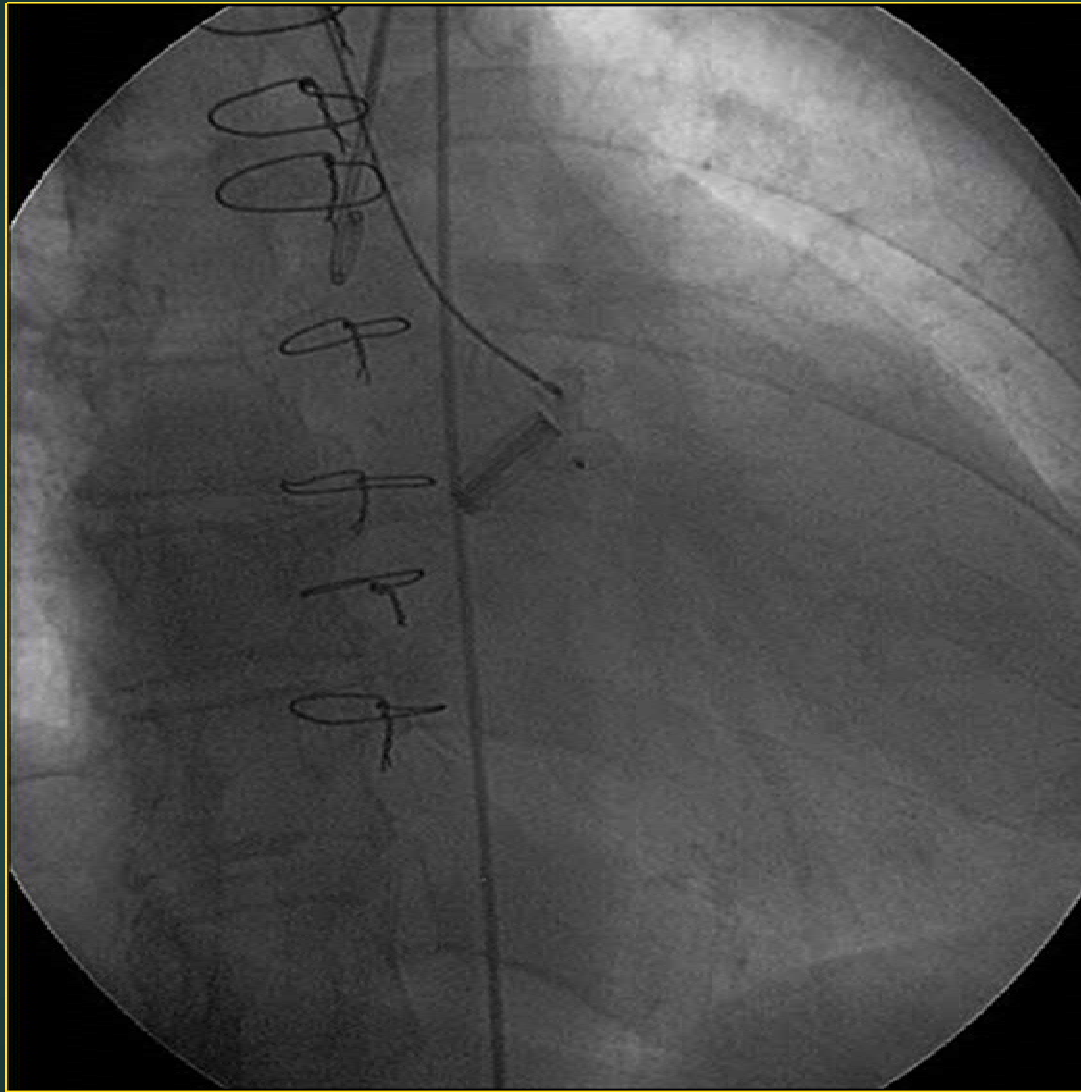
Seoul, 2006

Paravalvular leaks



Seoul, 2006

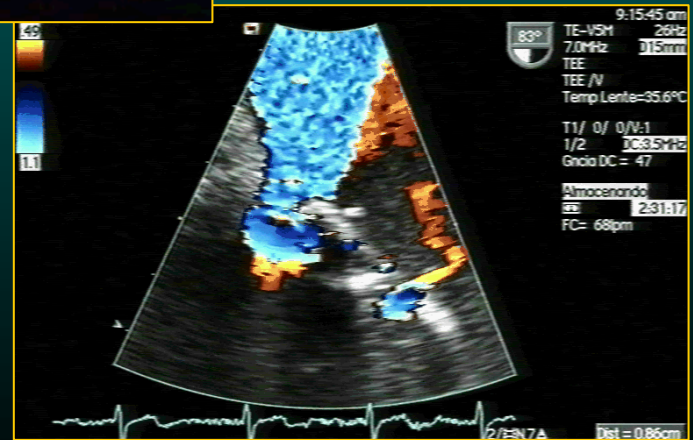
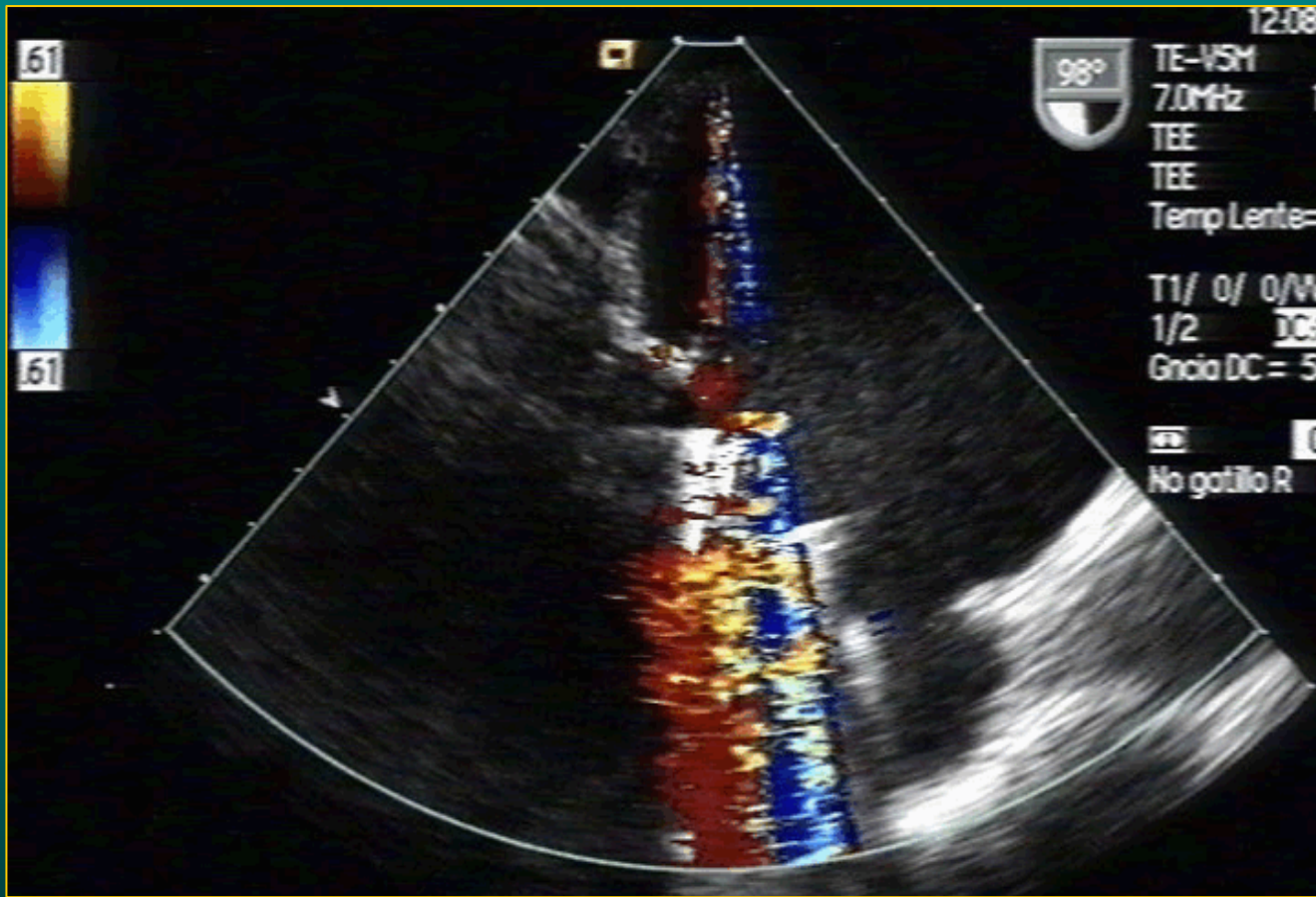
Paravalvular leaks



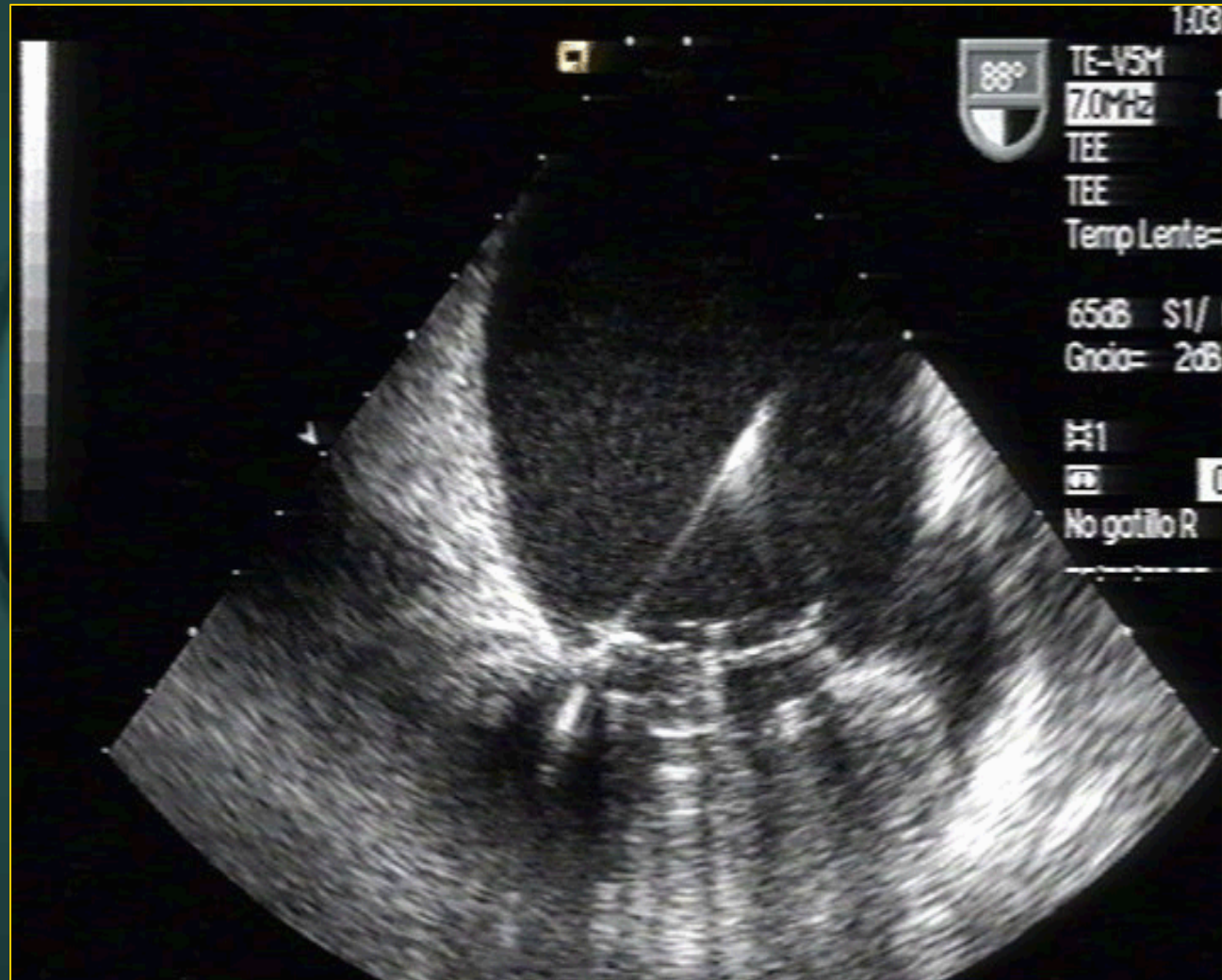
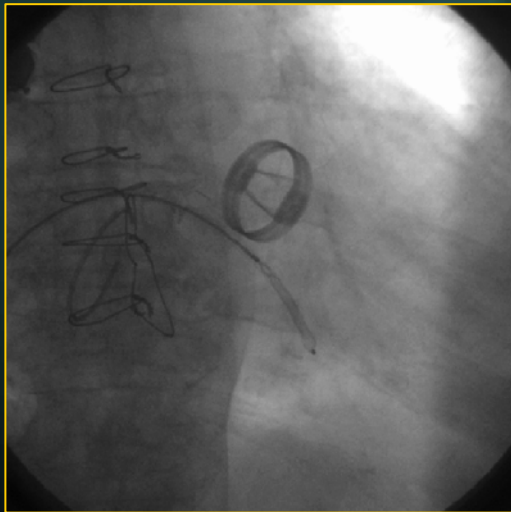
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Mitral leak

- ✦ Right femoral vein and left femoral artery approach
- ✦ Transeptal puncture
- ✦ Anterograde or retrograde leak approach
- ✦ Amplatzer sheath to LV through the leak
- ✦ TEE procedural guidance
- ✦ Amplatzer duct occluder positioning and release

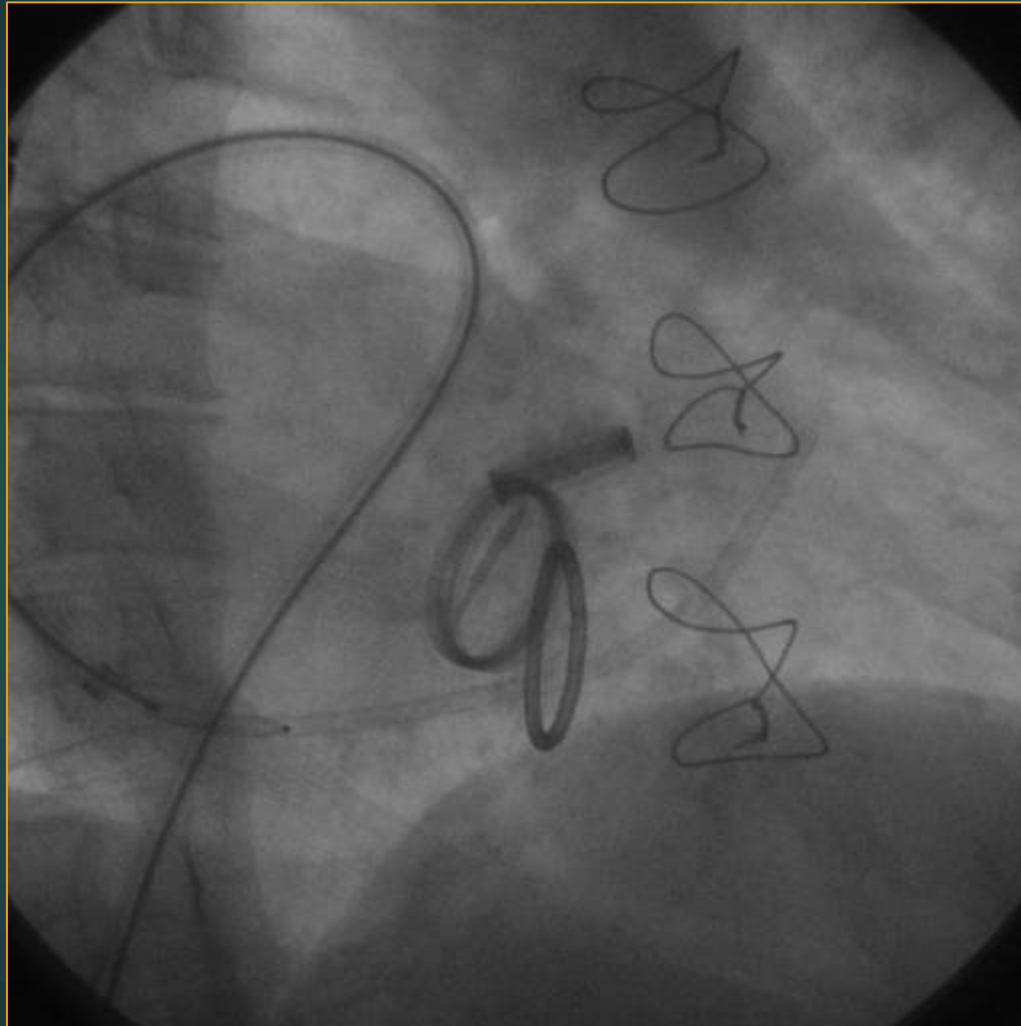


Device inside sheath



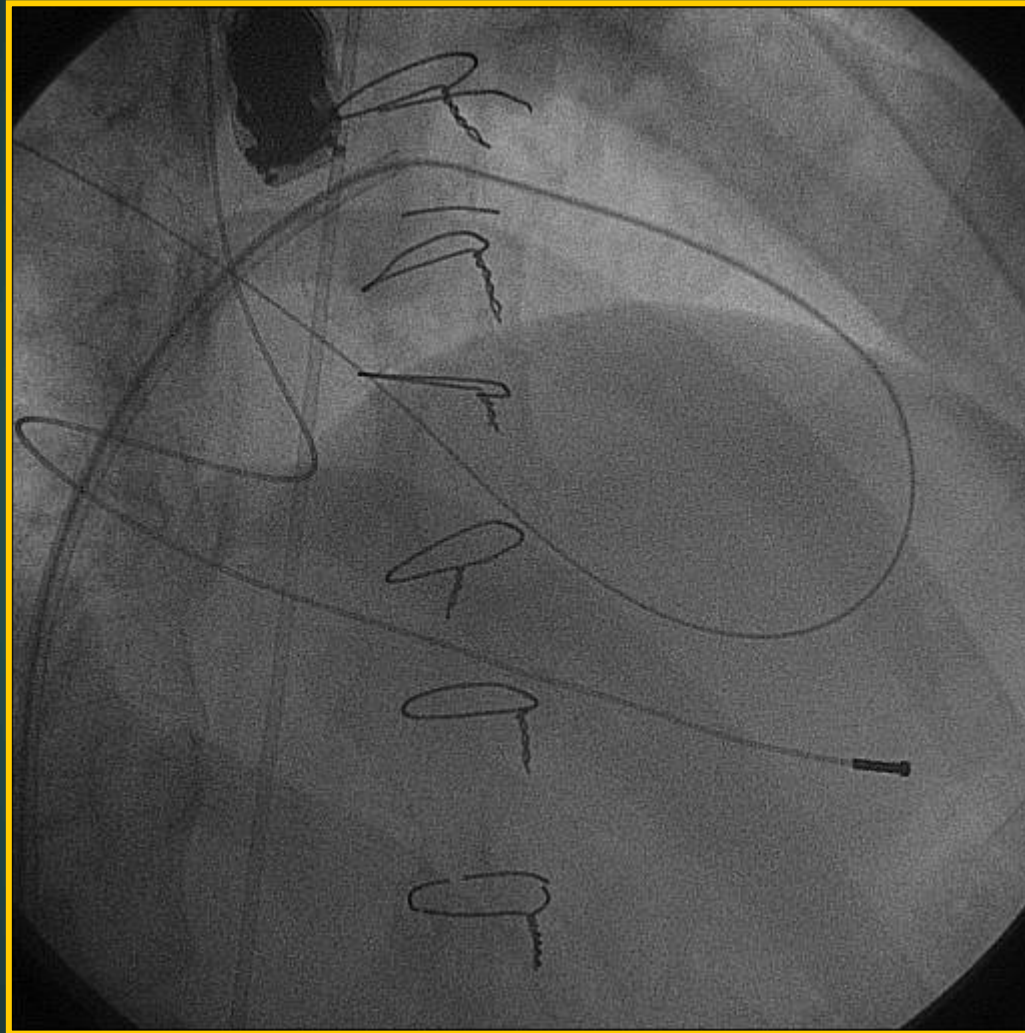
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Paravalvular leaks

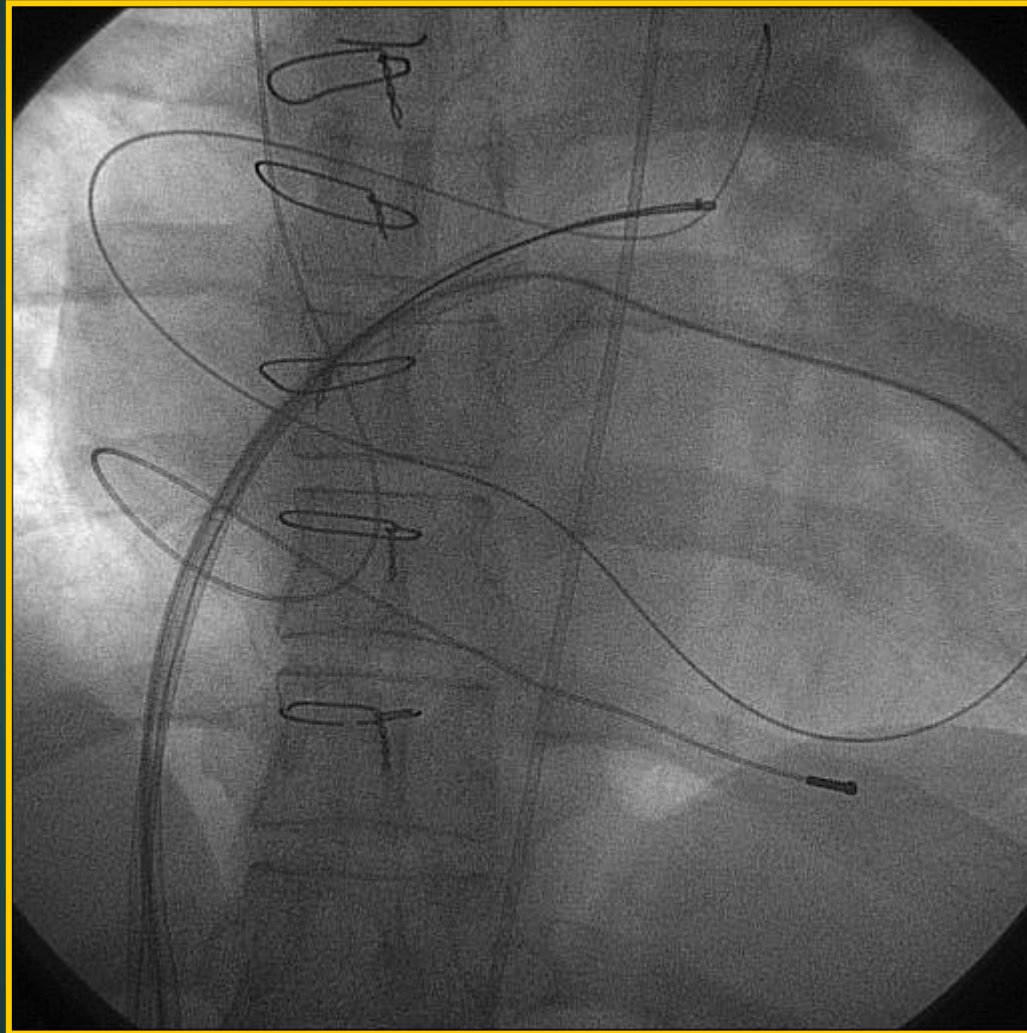


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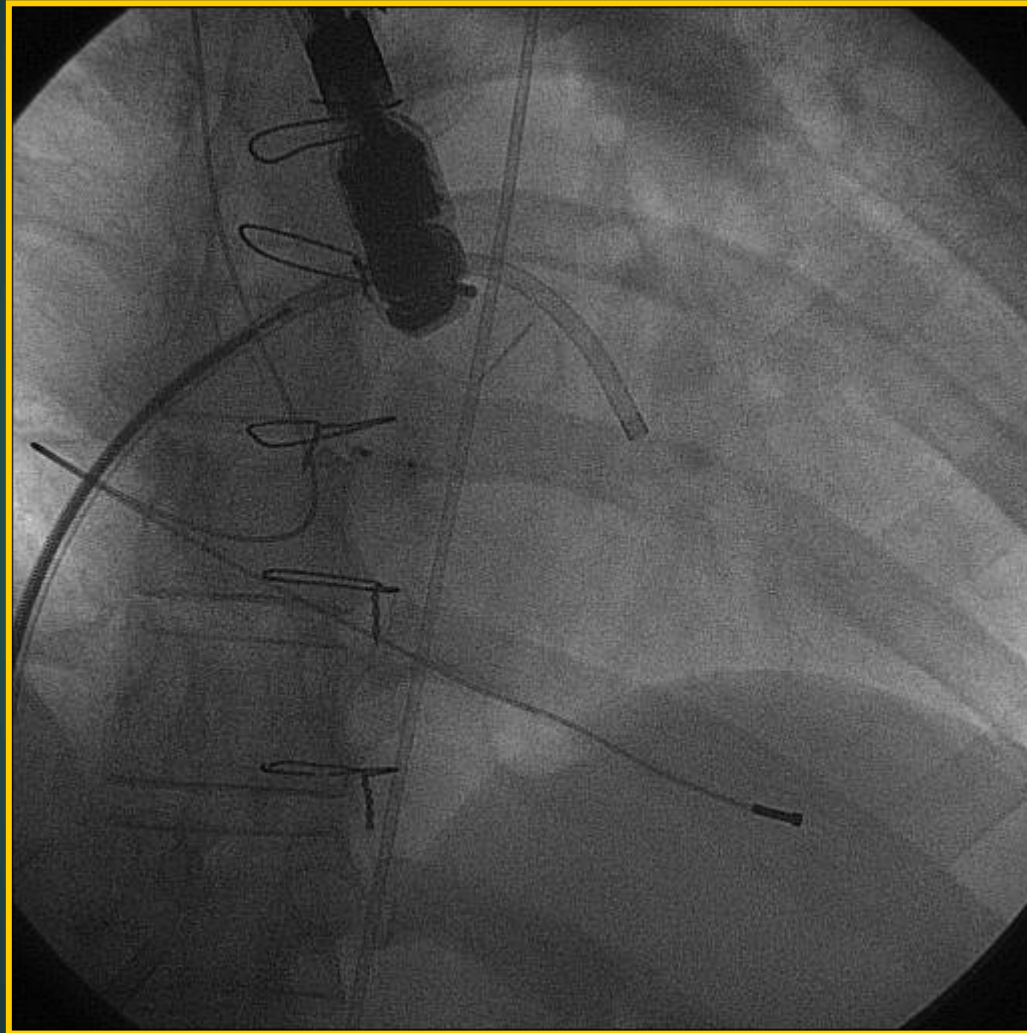
Paravalvular leaks



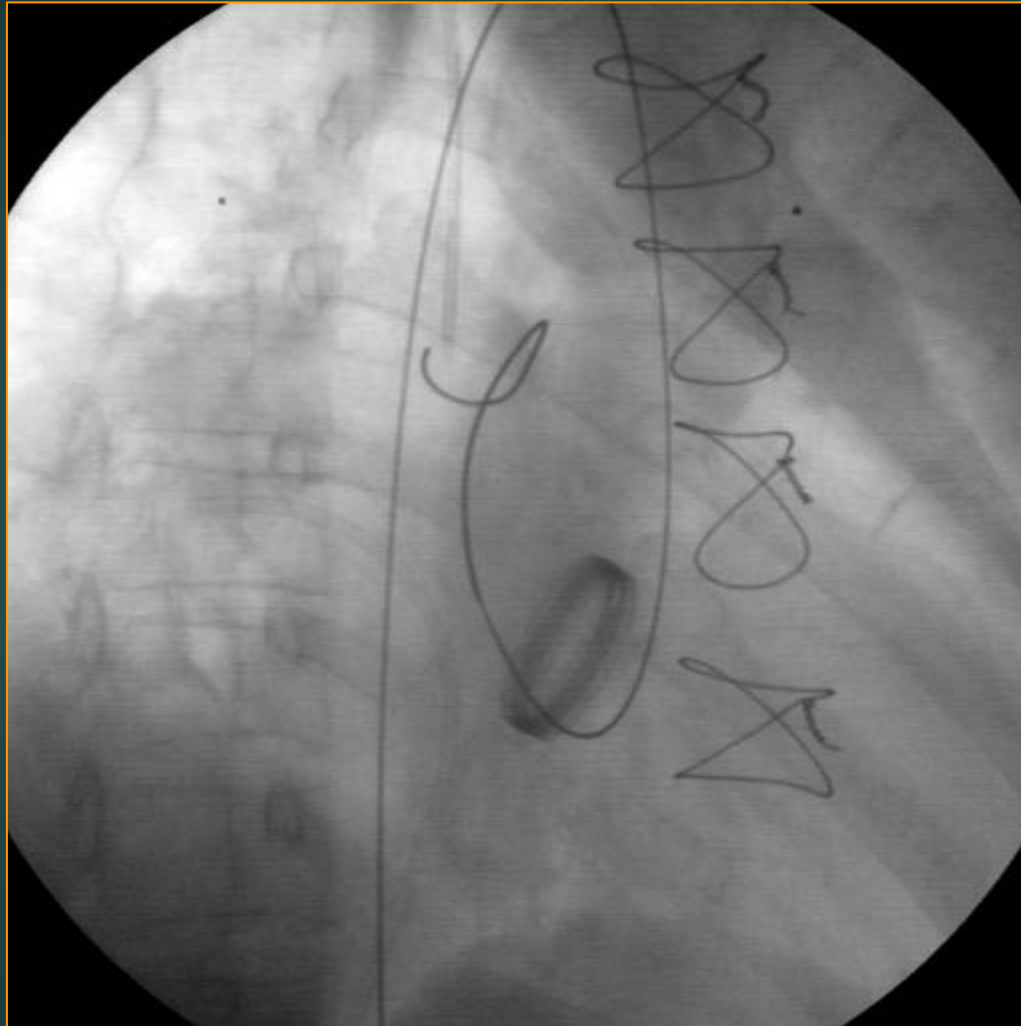
Paravalvular leaks



Paravalvular leaks

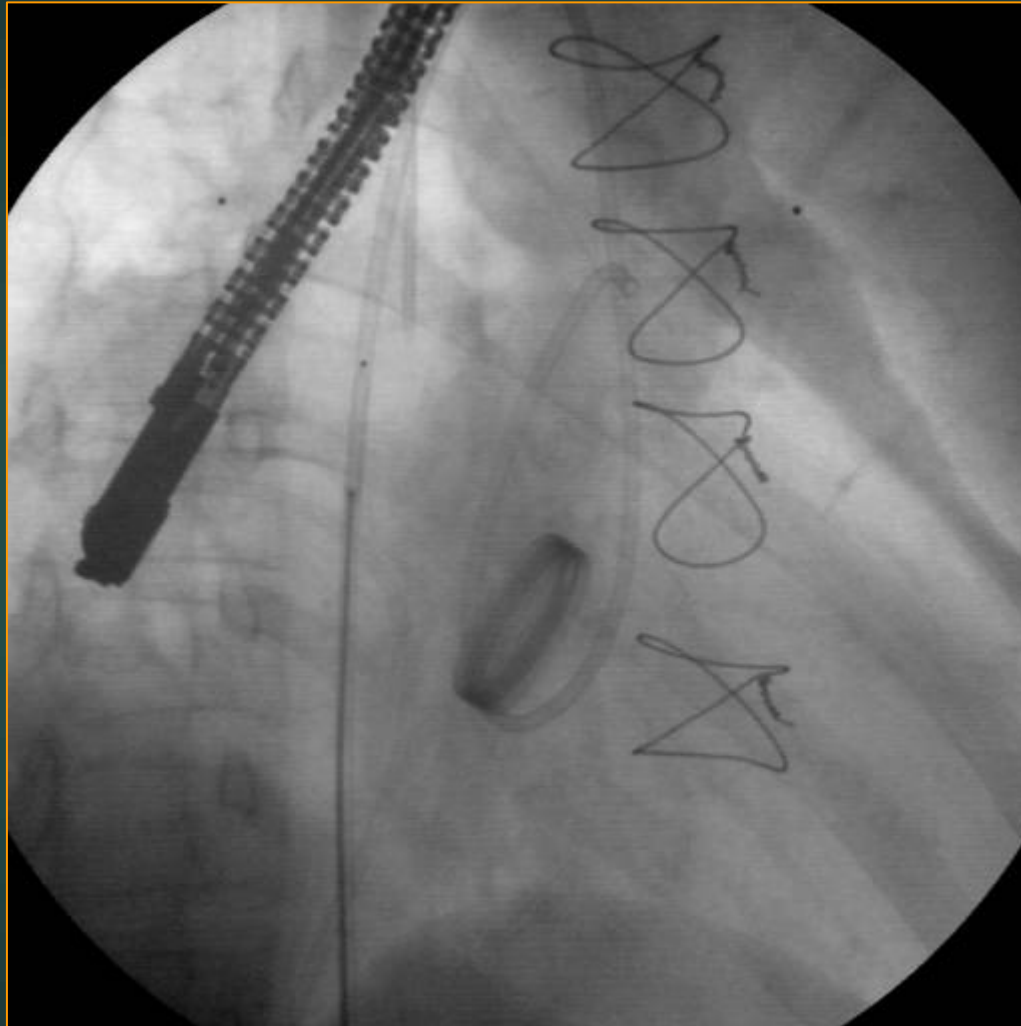


Paravalvular leaks



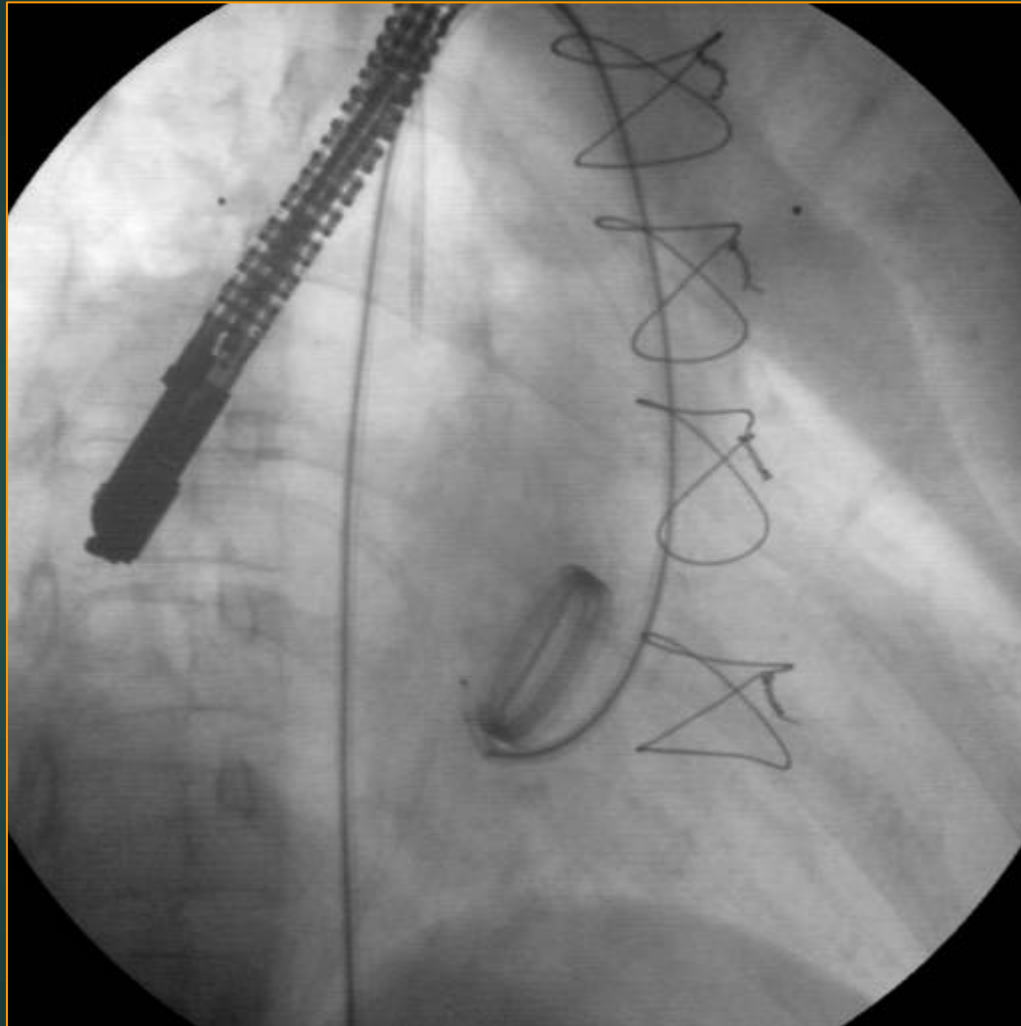
Seoul, 2006

Paravalvular leaks



Seoul, 2006

Paravalvular leaks



Seoul, 2006

RESULTS

Age	30-70 yr (median 58)
CHF	14
Hemolytic anemia	16
Successful procedure (aortic)	8 (88%)
Successful procedure (mitral)	12 (79%)
Mean device size used	6.5 ± 1.4 mm

Post procedural and midterm results

Required transfusion	6
Haemolytic anemia	3
Complete or important repair (aortic)	8/9 (88 %)
Complete or important repair (mitral)	11/19 (58%)
Death	1
Surgical repair	3
CHF & multiple hospitalizations	1

CONCLUSIONS

- ✦ Percutaneous approach to paravalvular mitral leak could be considered an “off limits” percutaneous procedure
- ✦ There is no dedicated device or systematic approach defined
- ✦ Mitral leak repair is technically demanding and of difficult to predict outcome
- ✦ These procedures should be considered only in high risk surgical patients