

Preliminary Experience of TAVR and the Revived Use of Balloon Aortic valvuloplasty

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China, FuWai heart disease Hospital

Liu yan

- The first TAVR in humans was reported by Cribier et al. in 2002
- PARTNER : the first prospective multicenter randomized trial

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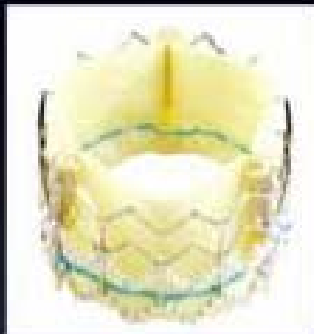
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Transcatheter Aortic-Valve Implantation for Aortic Stenosis
in Patients Who Cannot Undergo Surgery

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and Stuart Pocock, Ph.D., for the PARTNER Trial Investigators*

Equipment

- Edwards SAPIEN Devices



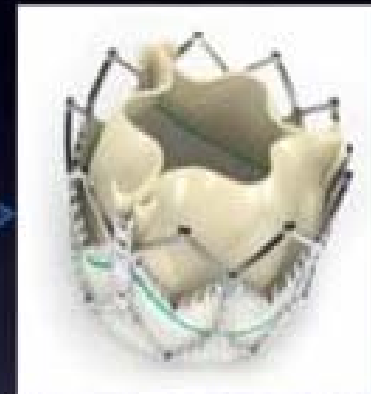
Cribler-Edwards THV

- 23 mm Valve
- Untreated Equine Tissue



Edwards SAPIEN THV

- 23 and 28 mm Valves
- Bovine Pericardial Tissue
- Carpentier-Edwards TheraFix Process**
- Leaflet Matching Technology

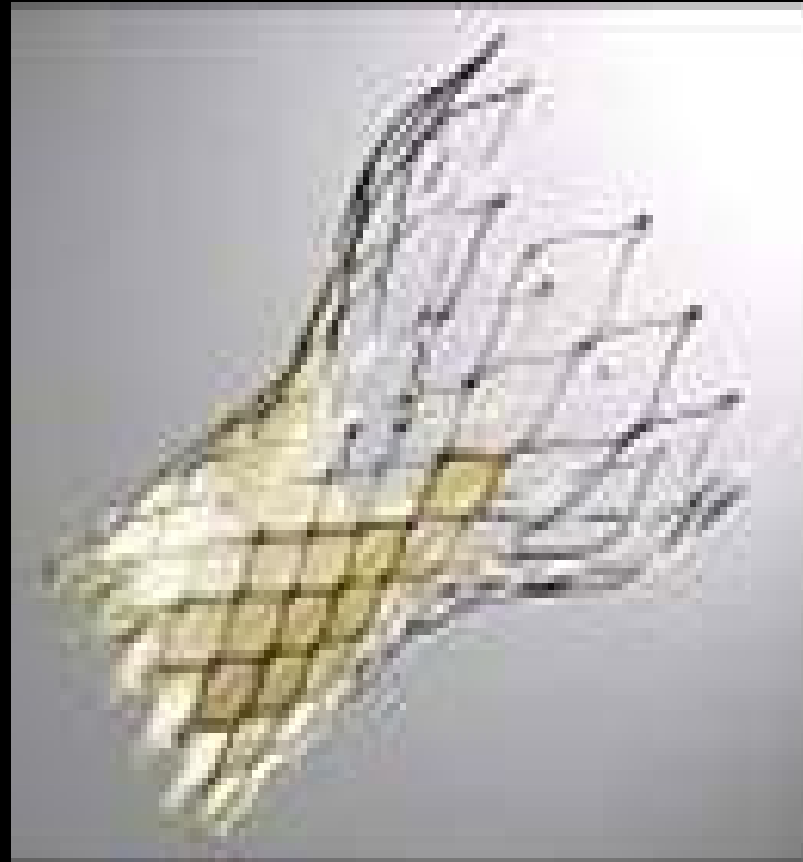


Edwards SAPIEN XT THV

- 23 and 26 mm Valves
- Bovine Pericardial Tissue
- Carpentier-Edwards TheraFix Process**
- Leaflet Matching Technology

Equipment

- Medtronic CoreValve System



Fuwai Hospital:

The Early TAVR Experience



2010. 12. 09 Intraoperation

482 中国循环杂志 2010年12月第25卷第6期(总第166期) Chinese Circulation Journal, December, 2010, Vol. 25 No. 6 (Serial No. 166)

· 新技术速递 ·

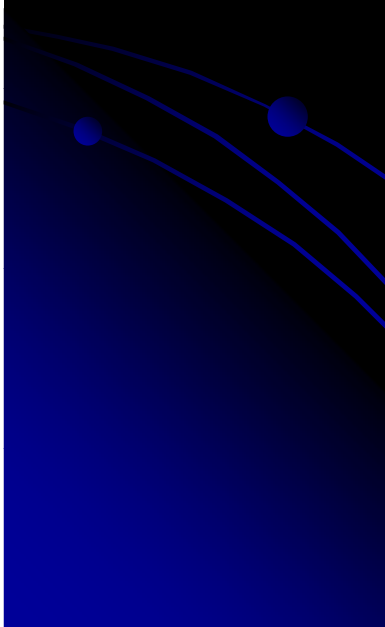
经导管主动脉瓣 (CoreValve) 置入术二例报告

杨跃进, 吴永健, 王欣, 张海涛, 吕秀章, 裴汉军, 张磊, 吴元, 吕滨, 刘焱, 徐波, 乔树宾, 李立环, 王巍, 胡盛寿*, 高润霖*



2010. 12. 17 Discharged from hospita 2011. 12. 09 1-Year follow





The procedure of TAVR



CASE 1

Patient Demographics

Sex: male

Age: 73y

Risk Factors

Elderly patient

**CKD (Stage 3)
(eGFR=58ml/min/1.73m²)**

**Pulmonary hypertention
(PAP=48mmHg)**

LVEF:43%

Past Medical History

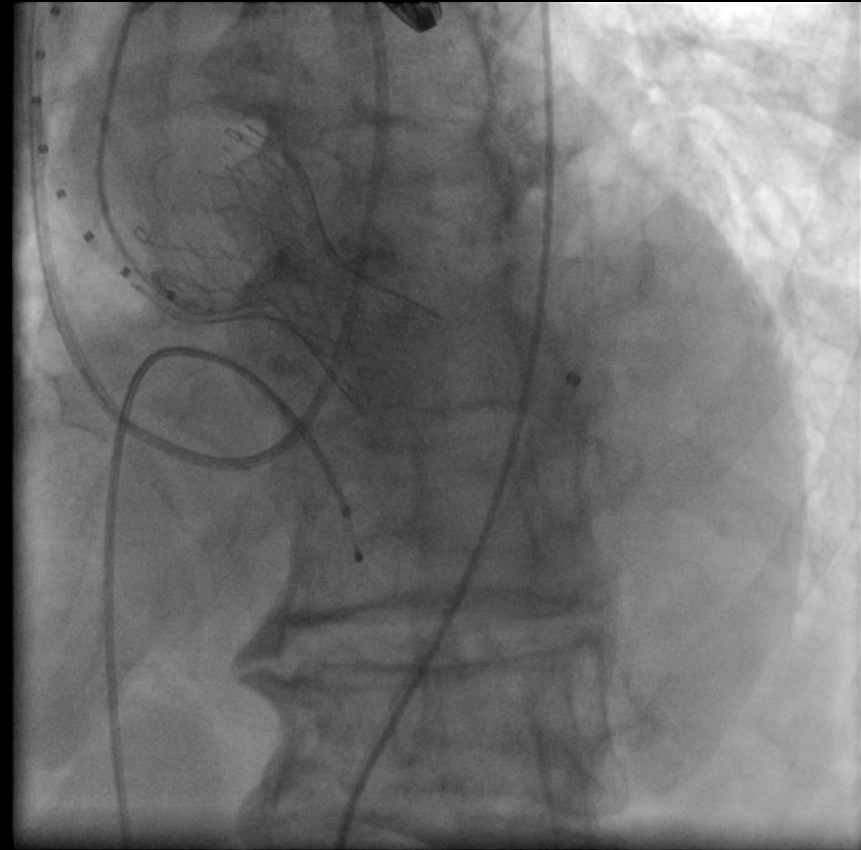
Hypertension

COPD

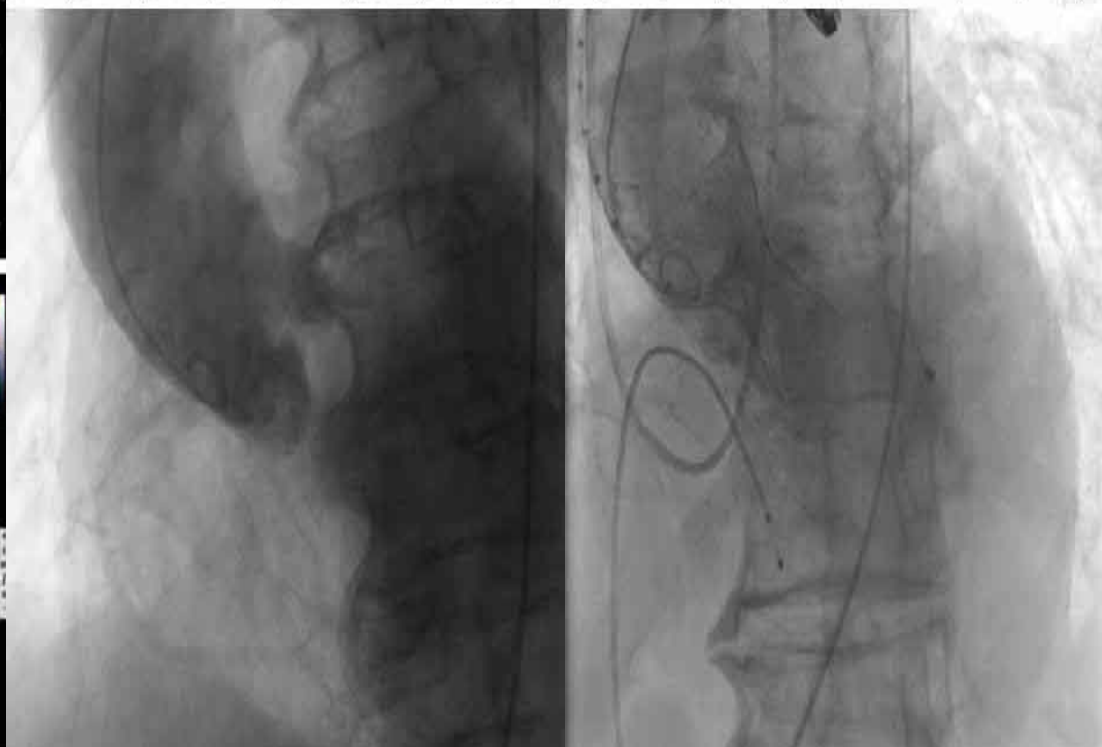
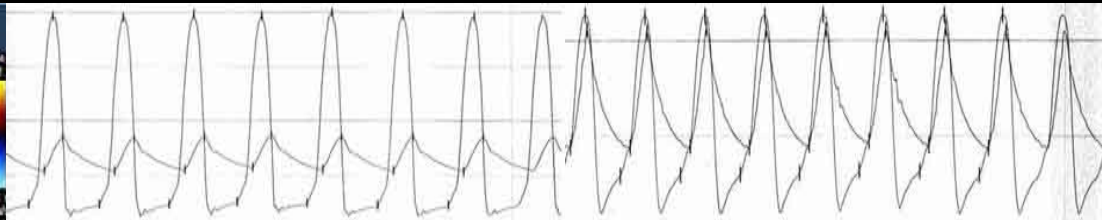
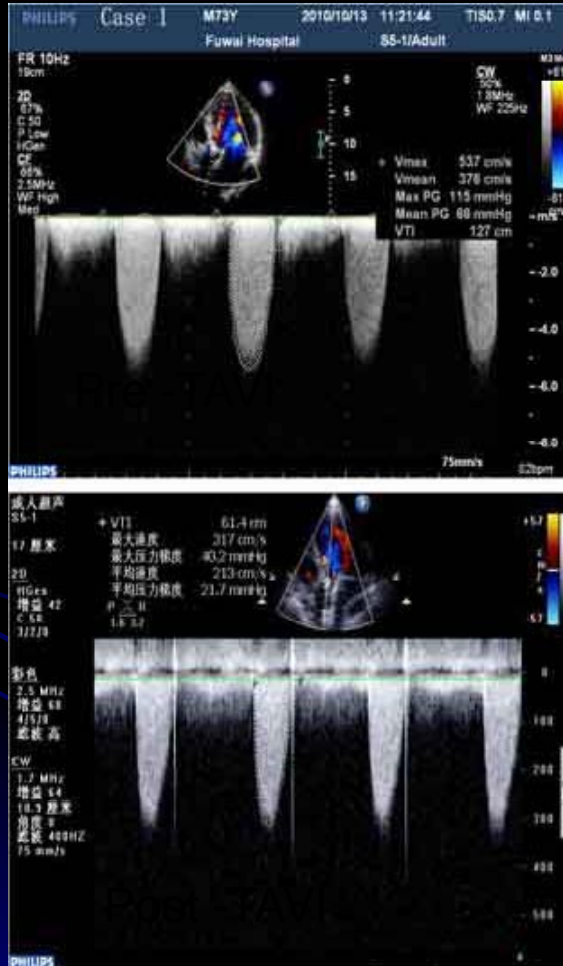
Clinical Presentation

**Dyspnea during exercise
for 3 years, exacerbated
with lower limb edema for
1 year**

Use 29mm CoreValve



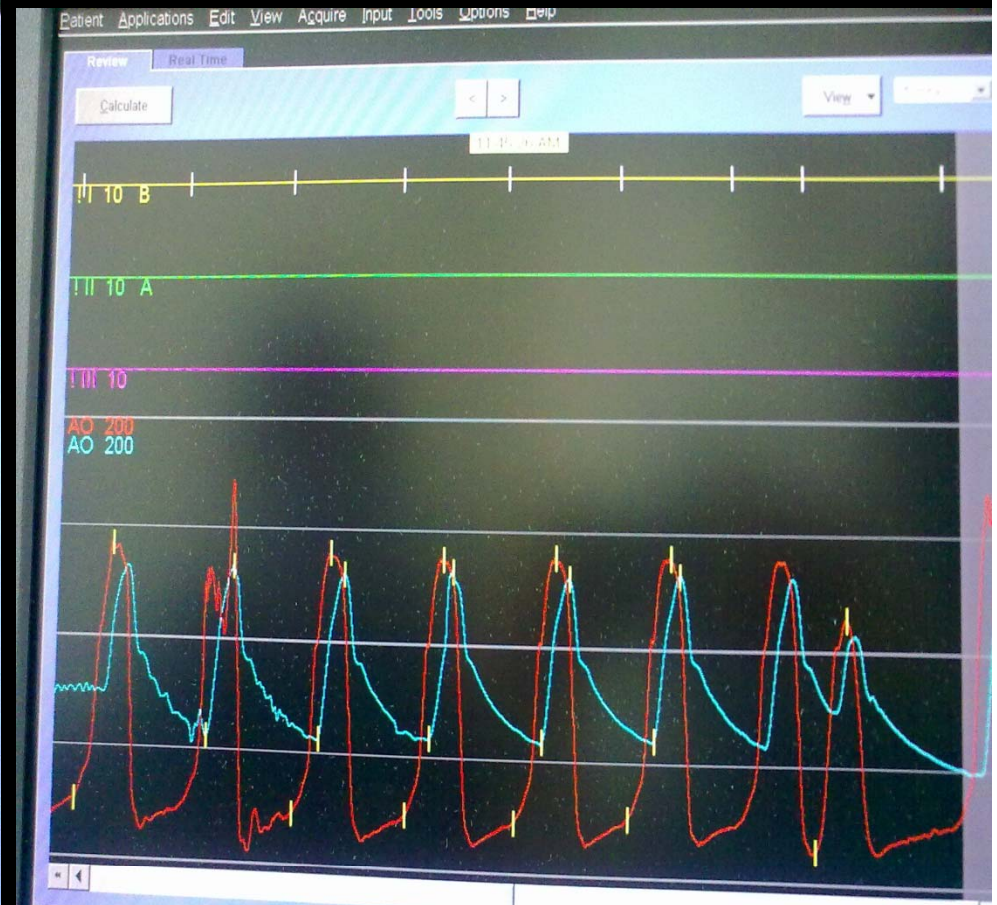
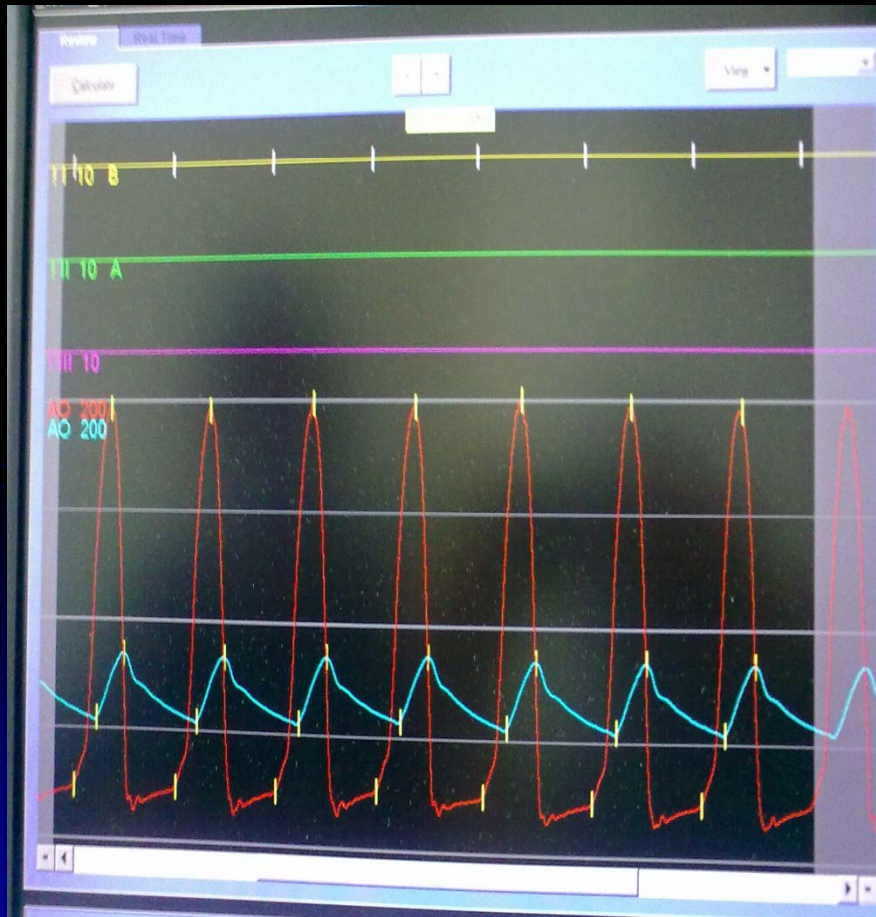
Final Result



Pre -TAVI

Post -TAVI

LV-AO pressure gradient desend:104mmHg



One-year Follow-Up

- **CoreValve worked well**
- **Quality of life improved significantly (KCCQ)**
- **Echocardiography**

Mean Gradient	19mmHg
Jet Velocity	3.2m/s
Central Regurgitation	Mild
LVEF, %	65

CASE 2

Patient Demographics

Sex: Fmale

Age: 73y

Past Medical History

Hypertension

TB

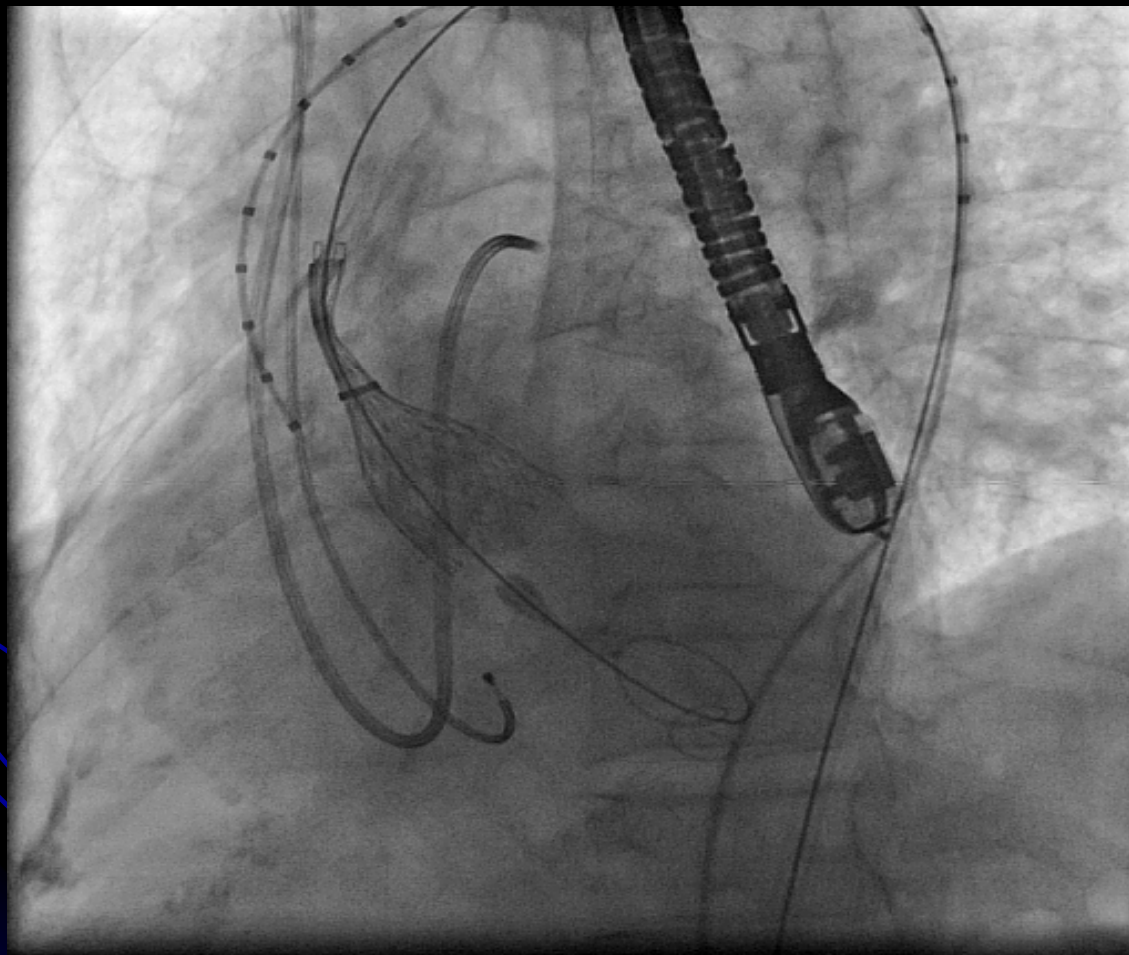
Risk Factors

**Elderly,
old TB, pleural
thickening and
adhesion,
encapsulated pleural
effusion**

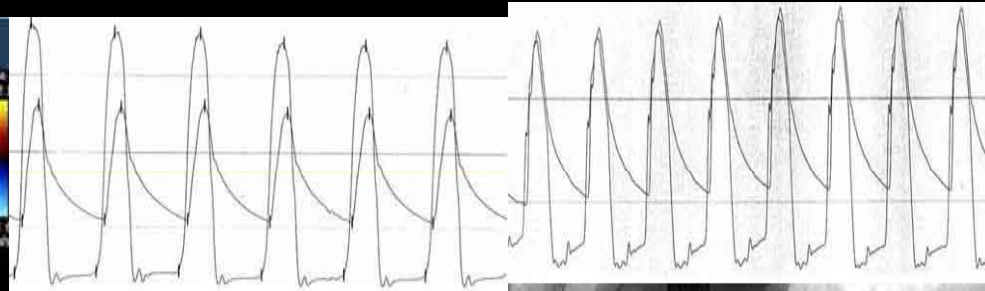
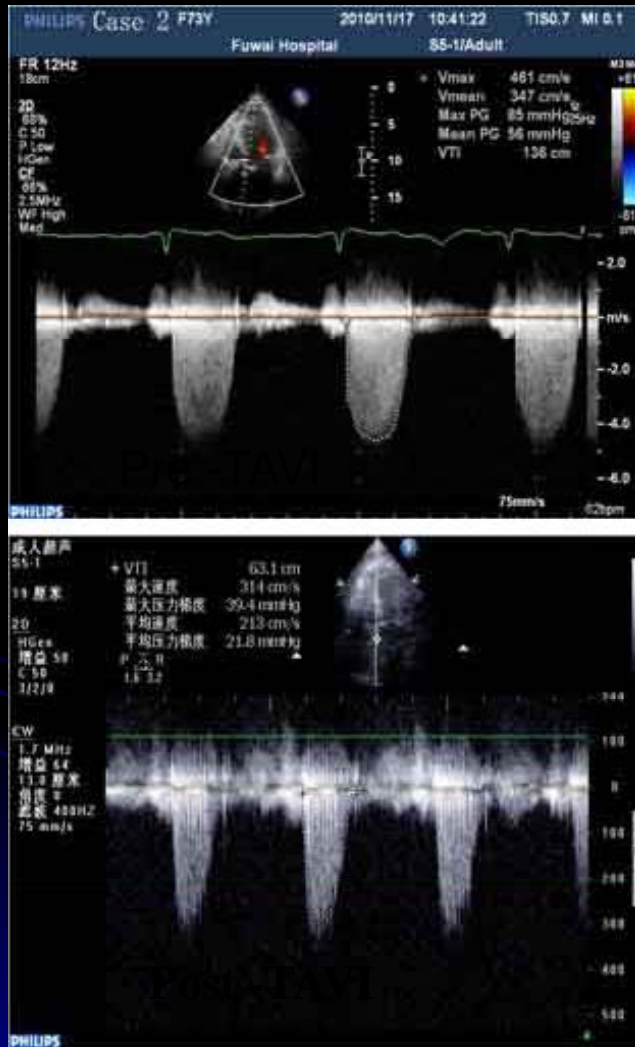
Clinical Presentation

**Intermittent chest
tightness and dyspnea
for half a year,
exacerbated for a month**

Use 26mm CoreValve



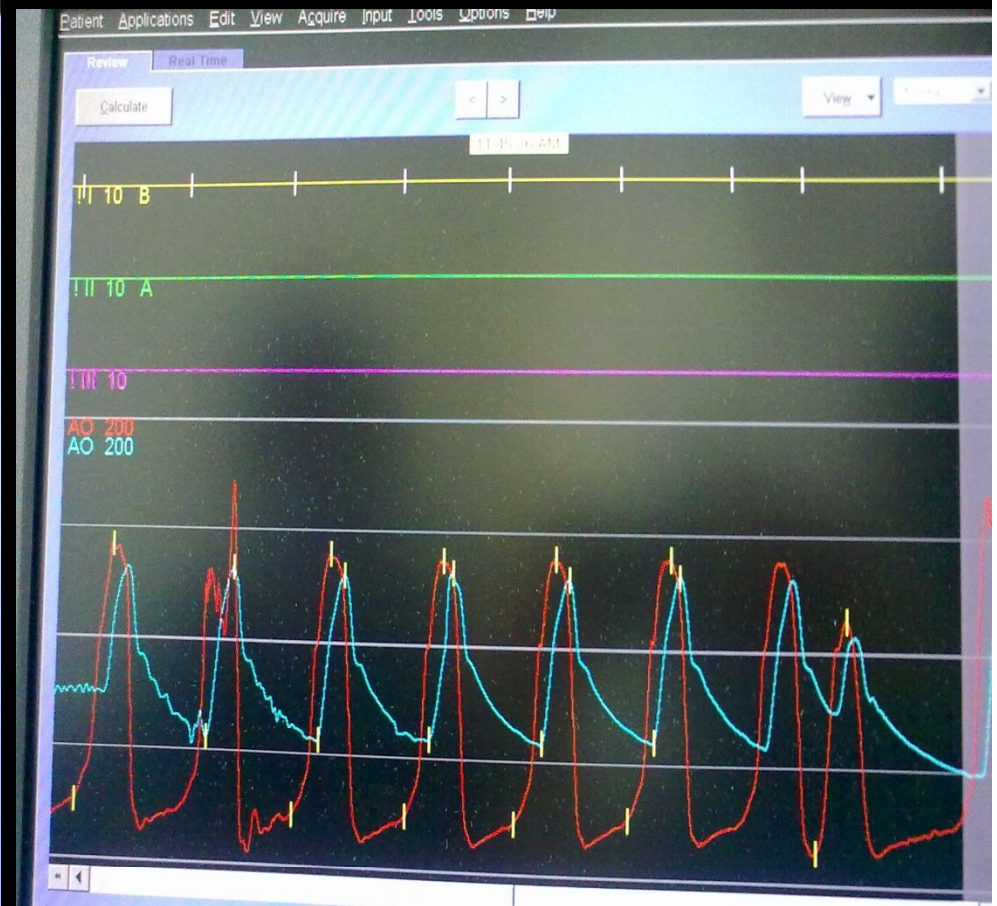
Final Result



Pre -TAVR

Post -TAVR

LV-AO pressure gradient descend :43mmHg



One-Year Follow-Up

- **CoreValve worked well**
- **Quality of life improved significantly (KCCQ)**
- **Echocardiography**

Mean Gradient	19mmHg
Jet Velocity	3.4 m/s
Central Regurgitation	Mild
LVEF, %	66

Percutaneous Balloon Aortic Valvuloplasty

First described by Cribier et al. in 1986

- **Generally considered a palliative procedure**
 - **Restenosis occurring invariably in a few months**
 - **no clear advantage on survival demonstrated**
- but:**
- **Amelioration of global clinical status and improvement of echocardiographic parameters shortly after the procedure**

Emergency PBAV as Initial Treatment of Patients with AS and Cardiogenic Shock

	PBAV (n=10)		P Value
	before	after	
Age	64 ± 9 (54 ~ 79)		
LVEF (%)	25 ± 6		
Aortic blood pressure	71 ± 8	80 ± 14	NS
PCWP (mmHg)	33 ± 6	25 ± 7	<0.02
CI (l/min/m ²)	1.90 ± 0.34	2.30 ± 0.40	<0.05
MAG (mmHg)	54 ± 19	28 ± 14	<0.01
AVA (cm ²)	0.47 ± 0.10	0.95 ± 0.30	<0.001

Cribier A, et al. N Engl J Med, 1992, 326(9):646

Outcome of In-hospital and follow-up

1 died due to restenosis 4 days after the procedure

1 died 3 weeks later of gastrointestinal bleeding

2 (68/79yrs) refusing AVR were alive without HF at 48/24 M

6 had uneventful AVR 5 months later

LVEF	46 ± 16
PCWP (mmHg)	17 ± 10
CI (l/min/m ²)	3.4 ± 0.7
MAG (mmHg)	47 ± 16
AVA (cm ²)	0.9 ± 0.2

Summary

TAVR are new technologies that could benefit many patients who are considered high-risk candidates for traditional surgical AVR. Although experiences with TAVR and PBAV are limited, preliminary results indicate that these techniques are feasible in selected high-risk patients and have satisfactory short-term outcomes.

