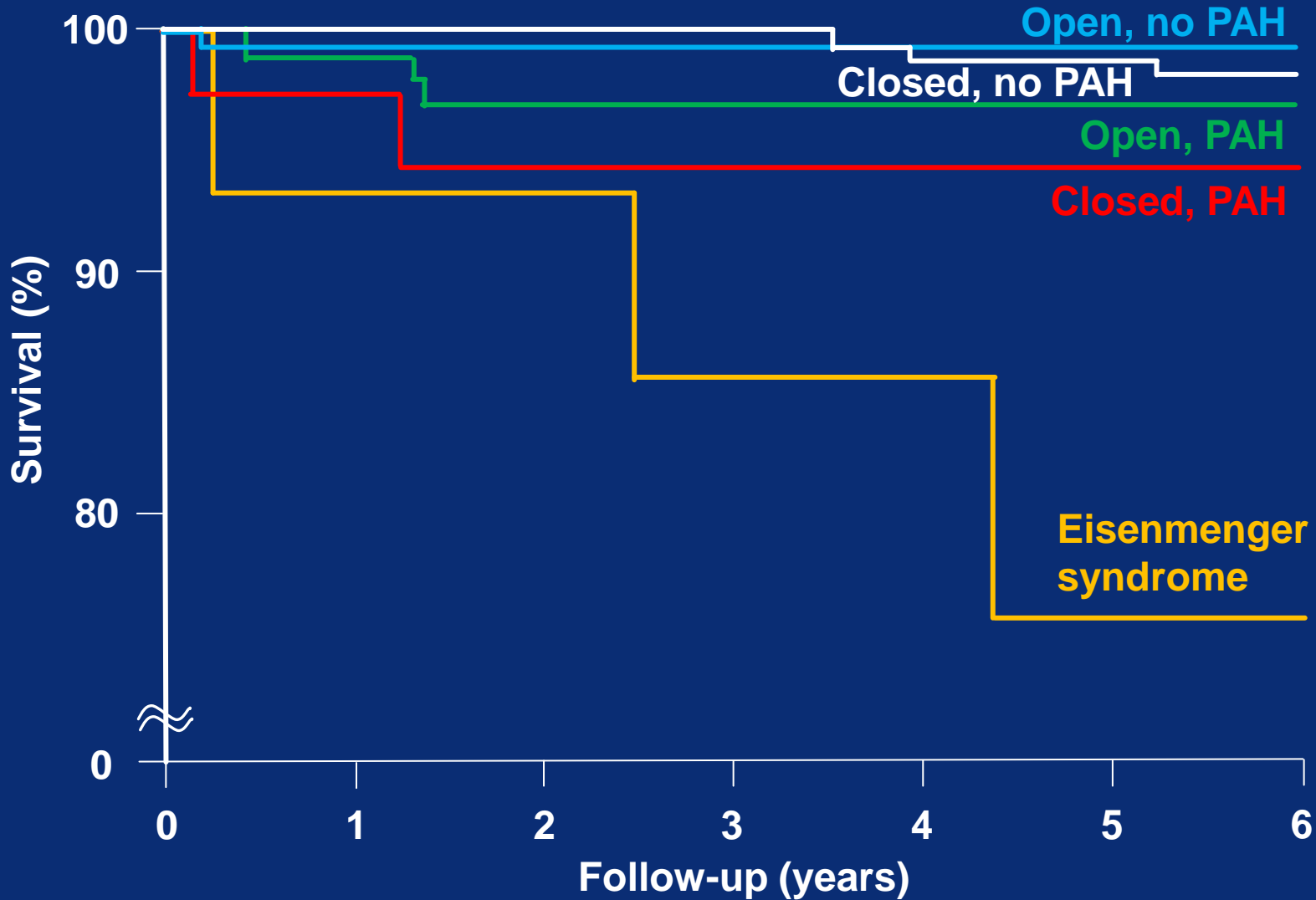


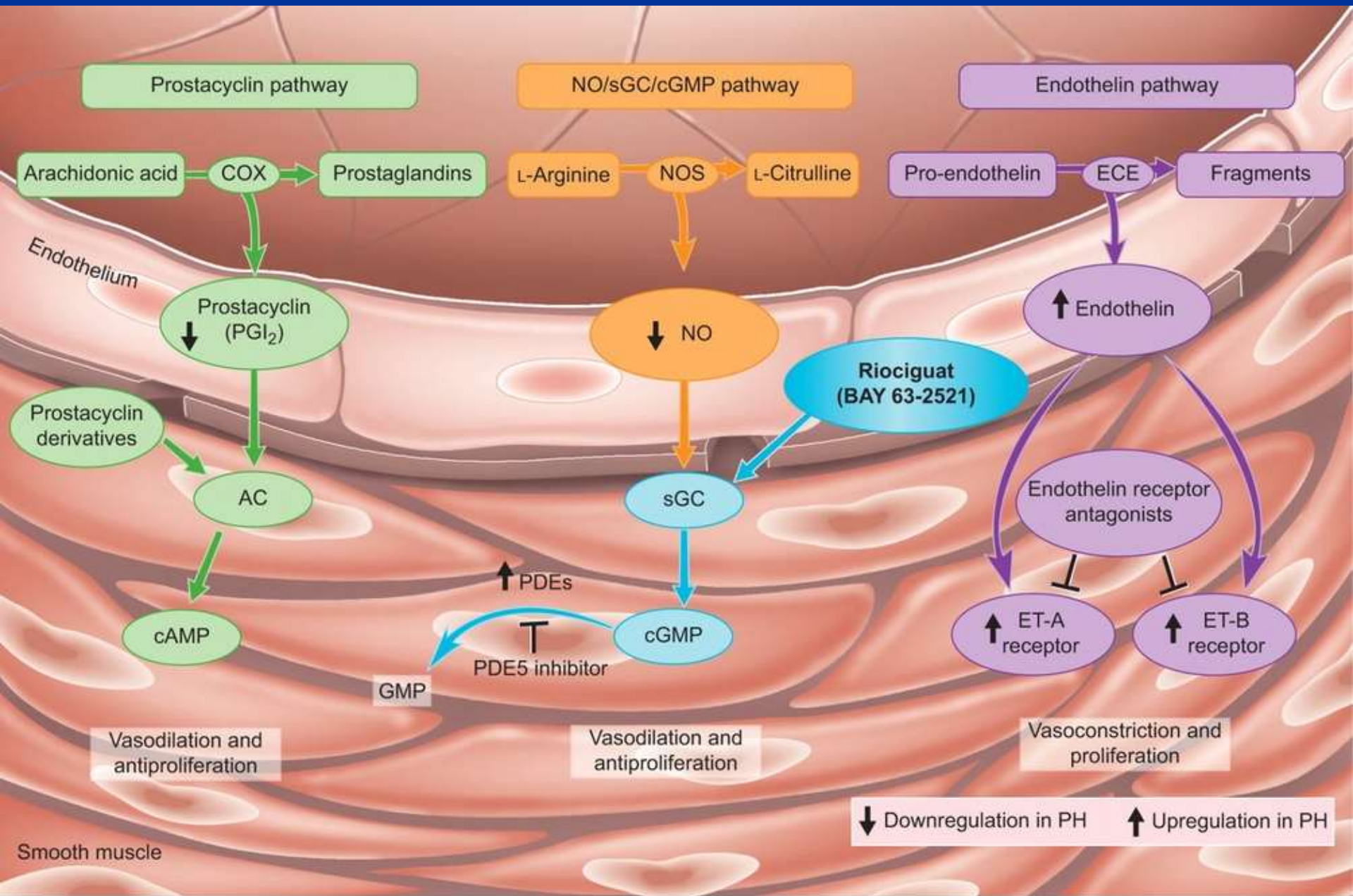
Long-Term Outcome After ASD Closure in Patients with Severe PH

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Survival for ASD with PAH





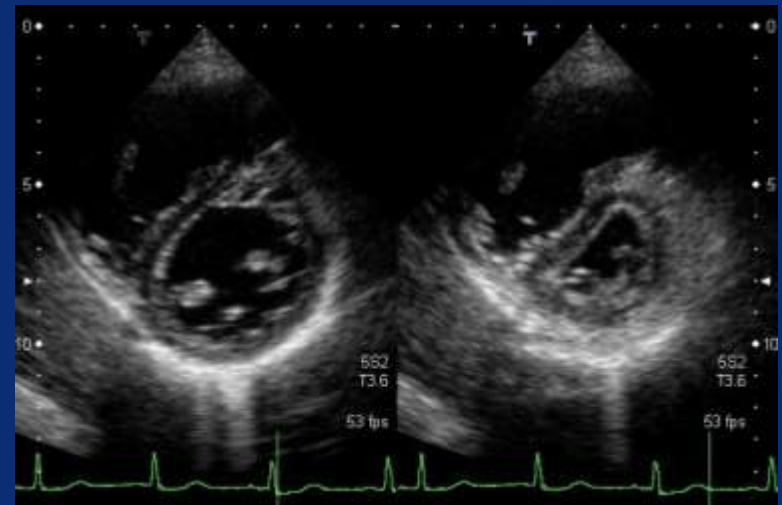
ESC guidelines for ASD closure

Indications	Class ^a	Level ^b
Patients with significant shunt (signs of RV volume overload) and PVR <5 WU should undergo ASD closure regardless of symptoms	I	B ²⁶
Device closure is the method of choice for secundum ASD closure when applicable	I	C
All ASDs regardless of size in patients with suspicion of paradoxical embolism (exclusion of other causes) should be considered for intervention	IIa	C
Patients with PVR ≥5 WU but <2/3 SVR or PAP <2/3 systemic pressure (baseline or when challenged with vasodilators, preferably nitric oxide, or after targeted PAH therapy) and evidence of net L-R shunt (Qp:Qs >1.5) may be considered for intervention	IIb	C
ASD closure must be avoided in patients with Eisenmenger physiology	III	C

Case: 41 y female ASD with severe PAH



PAP 106/32(58) mm Hg
PVR 10.3 wood units
Qp/Qs 1.5



Medication and clinical course

Before PAH
therapy

6MWD 210m

PA 106/32 (58), PVR 824, Qp/Qs=1.5



Epoprostenol	110 ng/kg/min
Bosentan	125mg/day

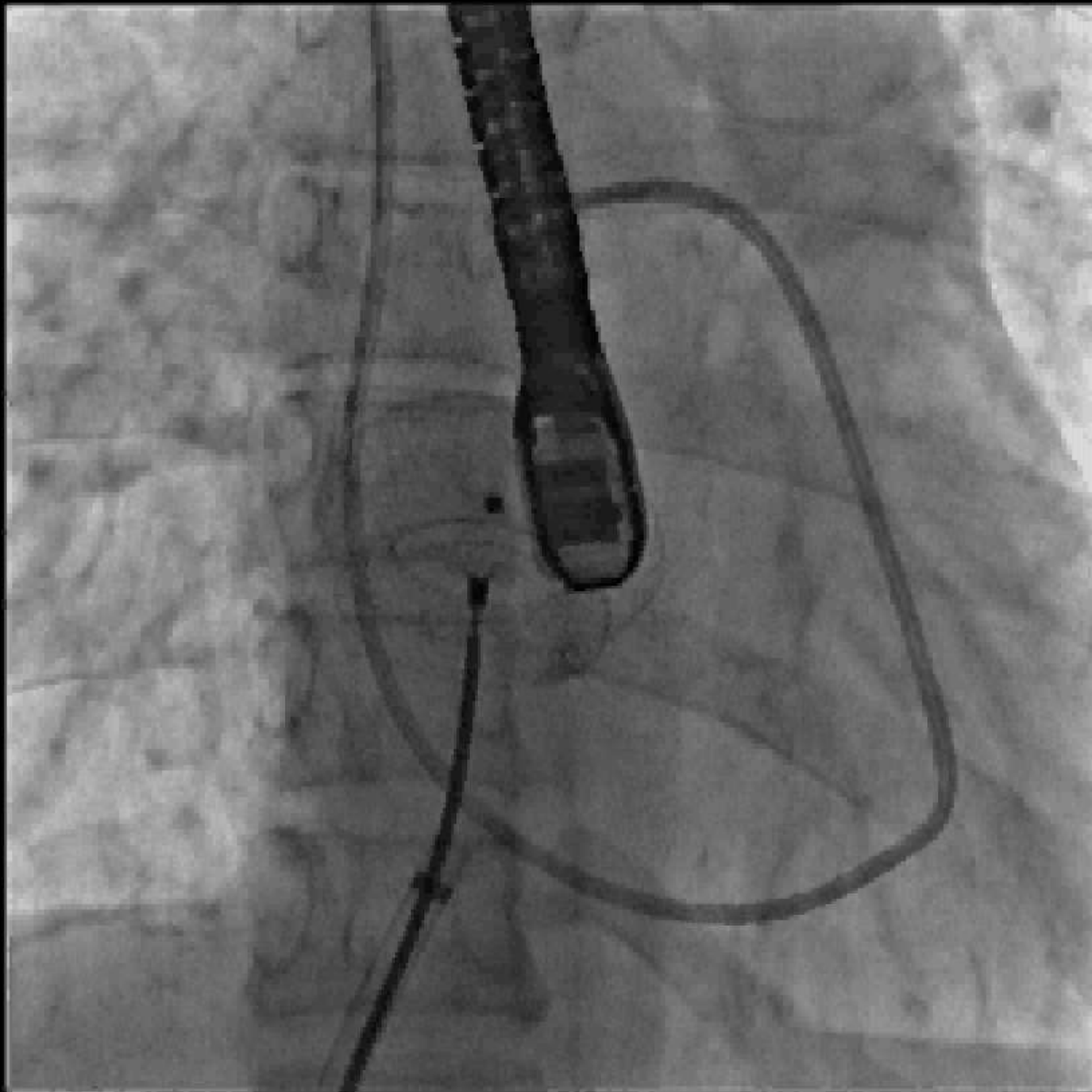
4 years after
PAH therapy

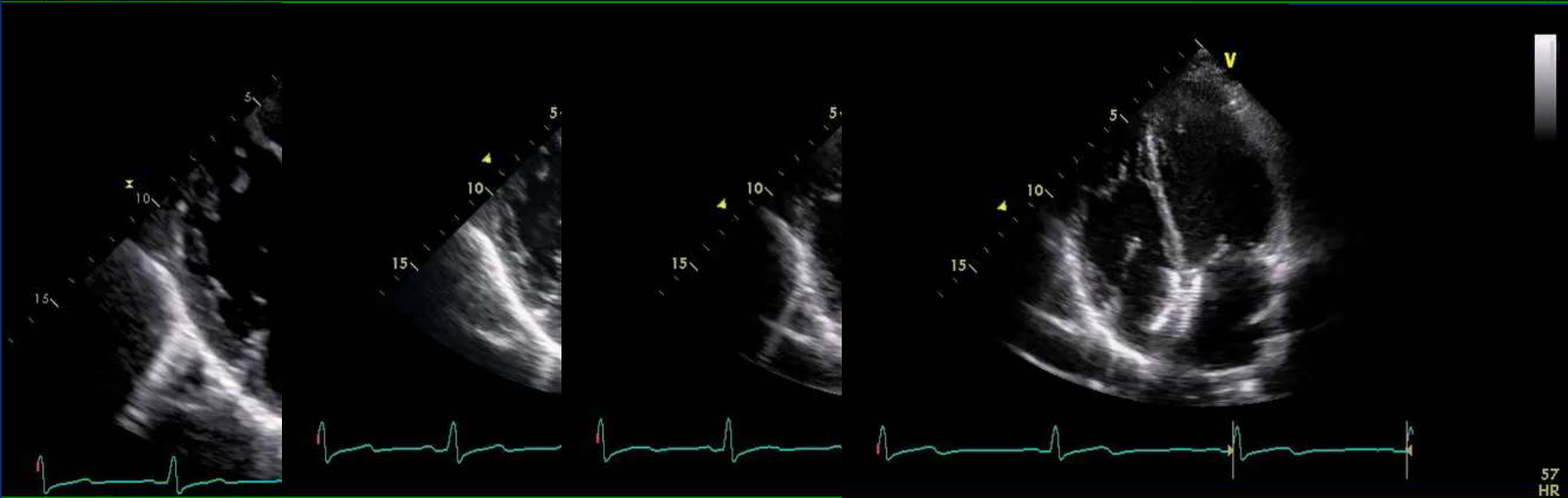
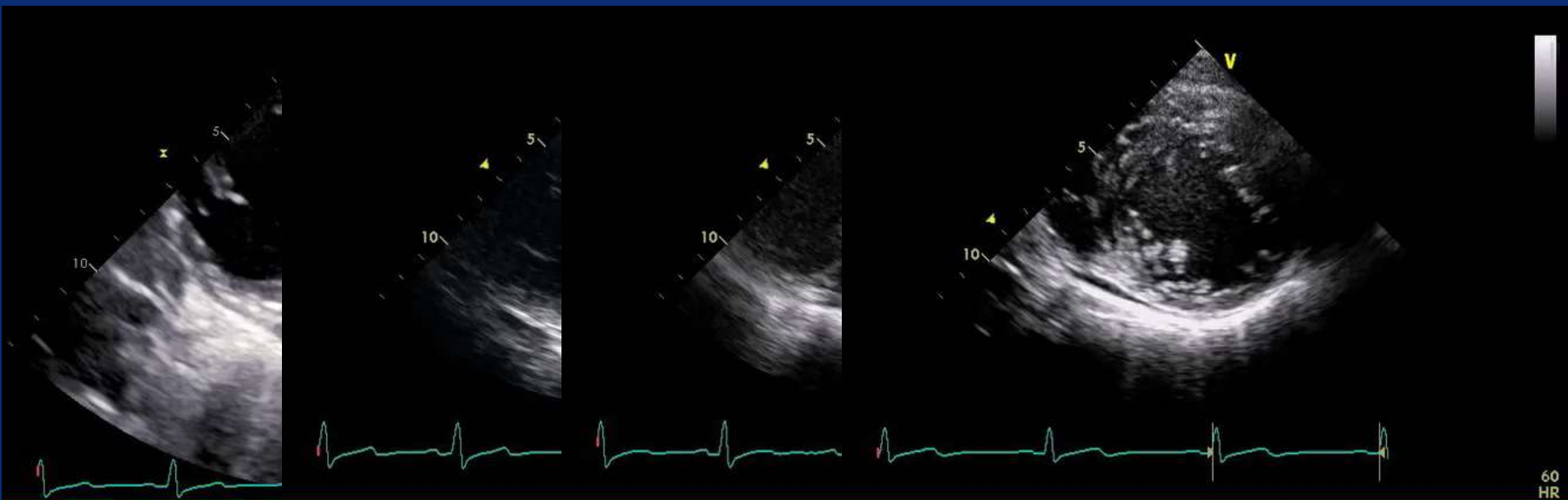
6MWD 420m

PA 82/31 (51), PVR 471, Qp/Qs=2.0



Transcatheter closure of ASD





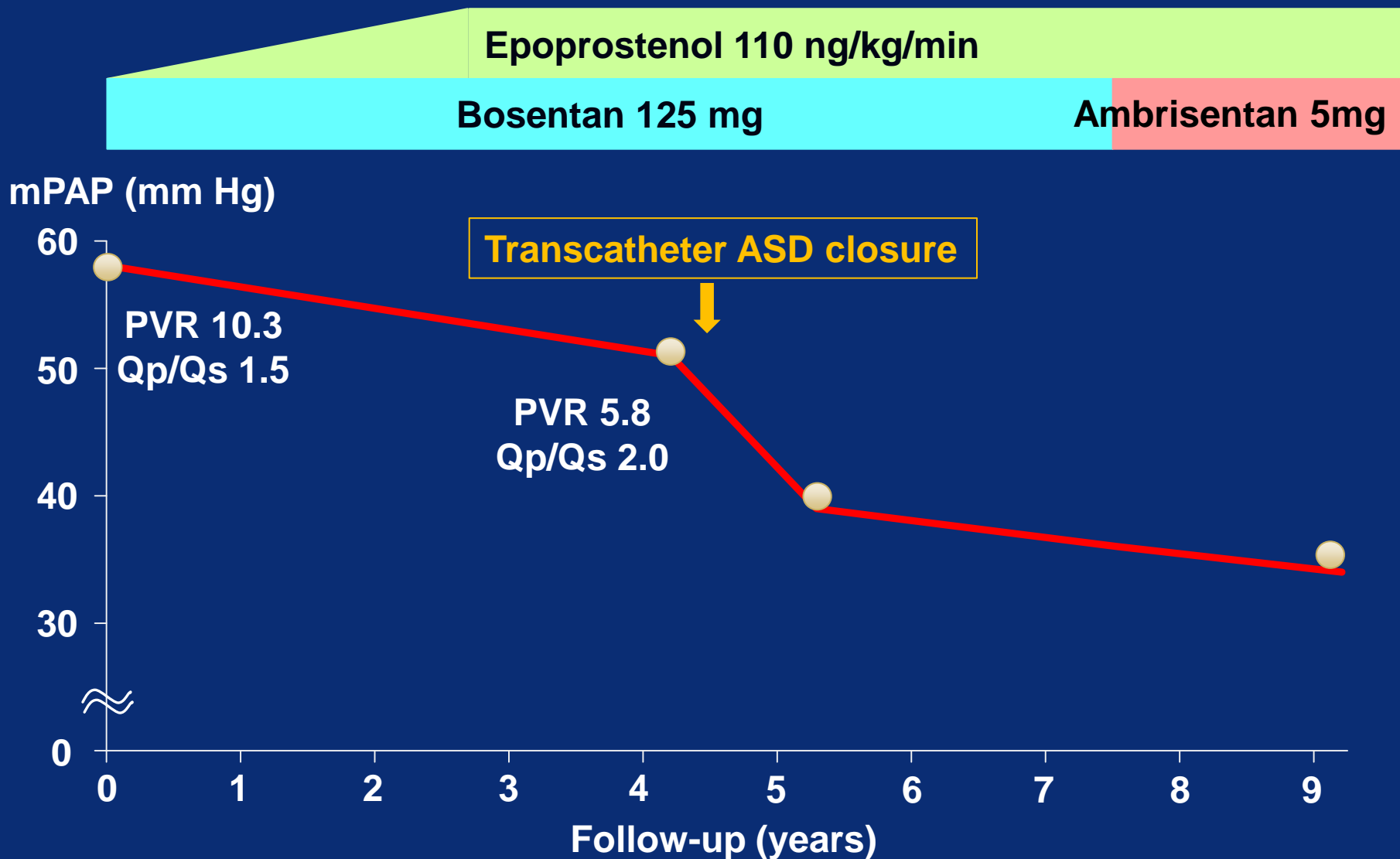
Baseline

After medications

After ASD closure

1 year follow-up

PAH specific medications → ASD closure



**Total ASD Cases
(646)**

**Definite ASD+PH (65)
(mean PAP \geq 25mmHg & PVR \geq 3units)**

Due to other causes (11)

**Catheter Closure
(54)**

**PAH Medications
(11)**

**No PAH Medications
(43)**

Baseline characteristics (before treat and repair strategy)

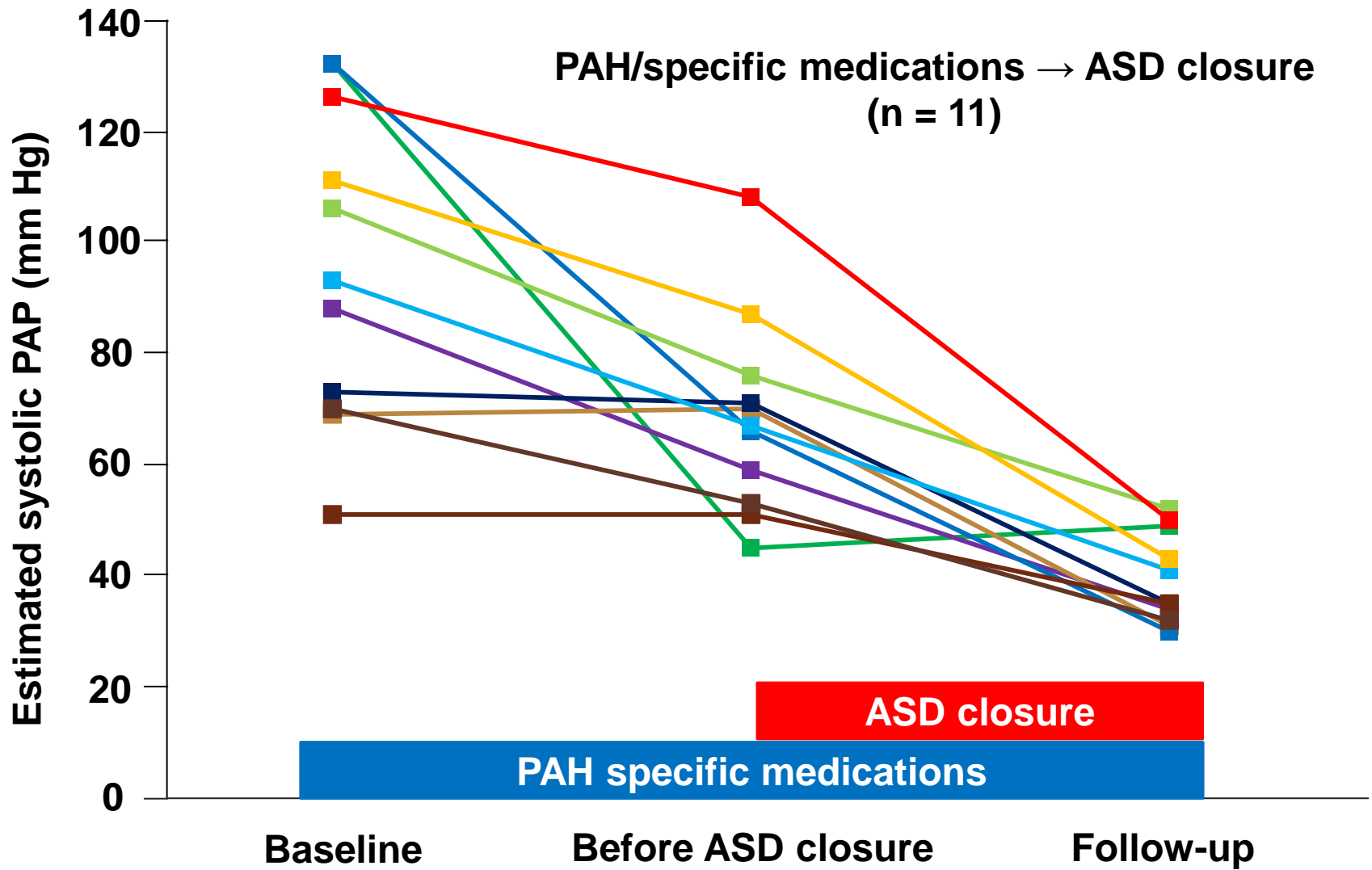
	No-PAH (n = 562)	PAH/no-specific medications (n = 43)	PAH/specific medications (n = 11)	p
Age (years)	45 ± 22	65 ± 11	43 ± 17	<0.01
Male	199 (35%)	19 (44%)	2 (18%)	0.23
ASD diameter (mm)	17 ± 7	24 ± 8	19 ± 8	<0.01
Mean PAP (mm Hg)	15 ± 4	30 ± 6	56 ± 21	<0.01
PVR (wood units)	1.1 ± 0.6	2.5 ± 1.3	9.6 ± 3.6	<0.01
Qp/Qs	2.5 ± 0.9	2.7 ± 0.9	2.2 ± 0.9	0.23
NYHA III	22 (4%)	15 (35%)	8 (73%)	<0.01
BNP (pg/ml)	71 ± 133	220 ± 239	291 ± 665	<0.01
RV/LV diameter ratio	0.85 ± 0.20	0.99 ± 0.20	0.85 ± 0.17	<0.01

PAH specific medications

Case	Before ASD closure
1	Epoprostenol 65 ng/kg/min
2	Beraprost 360 µg
3	Sildenafil 40 mg
4	Bosentan 250 mg, Sildenafil 60 mg
5	Bosentan 250 mg, Sildenafil 60 mg, Beraprost 360 µg
6	Epoprostenol 110 ng/kg/min, Bosentan 125 mg
7	Bosentan 125 mg, Sildenafil 60 mg, Beraprost 360 µg
8	Bosentan 187.5 mg, Sildenafil 40 mg
9	Epoprostenol 66 ng/kg/min, Ambrisentan 5mg, Sildenafil 60 mg
10	Bosentan 125 mg, Sildenafil 60 mg, Beraprost 360 µg
11	Ambrisentan 5mg, Tadalafil 20 mg, Beraprost 360 µg

Duration of PAH specific medications: 2 weeks - 120 months

Estimated systolic PAP (TTE)

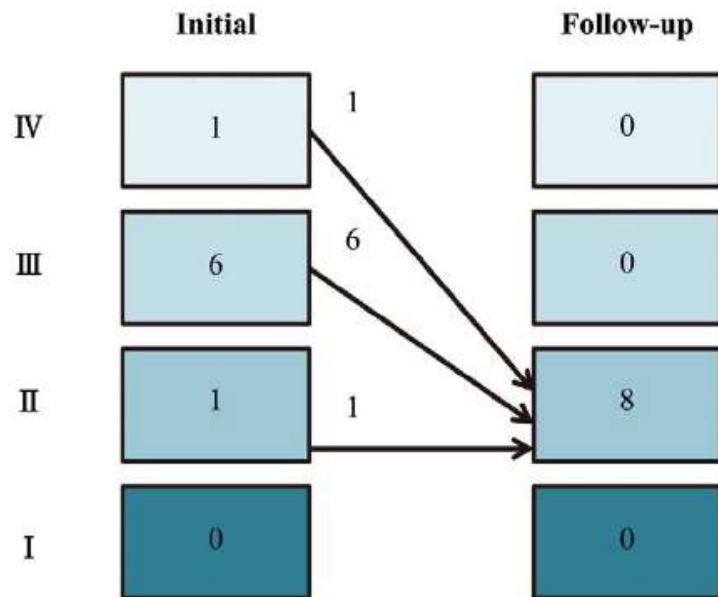


Treat and Repair Strategy in Patients With Atrial Septal Defect and Significant Pulmonary Arterial Hypertension

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Shunji Sano, MD, PhD; Hiroshi Ito, MD, PhD

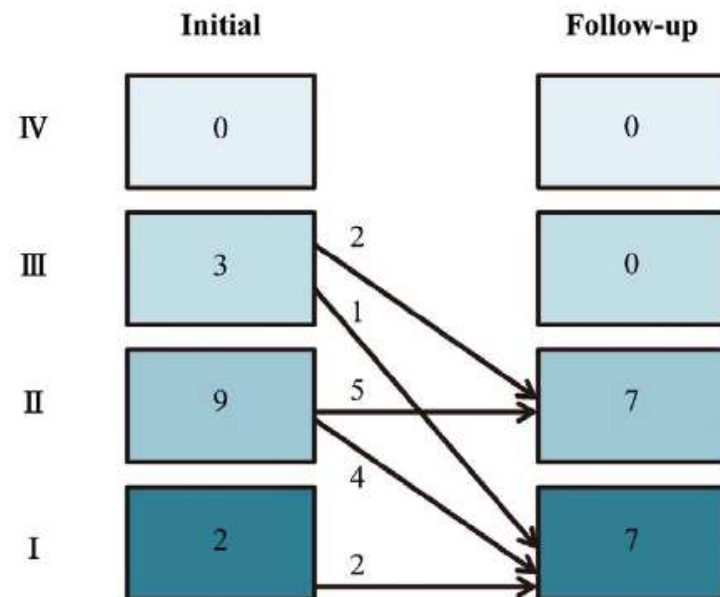
A

PHM group

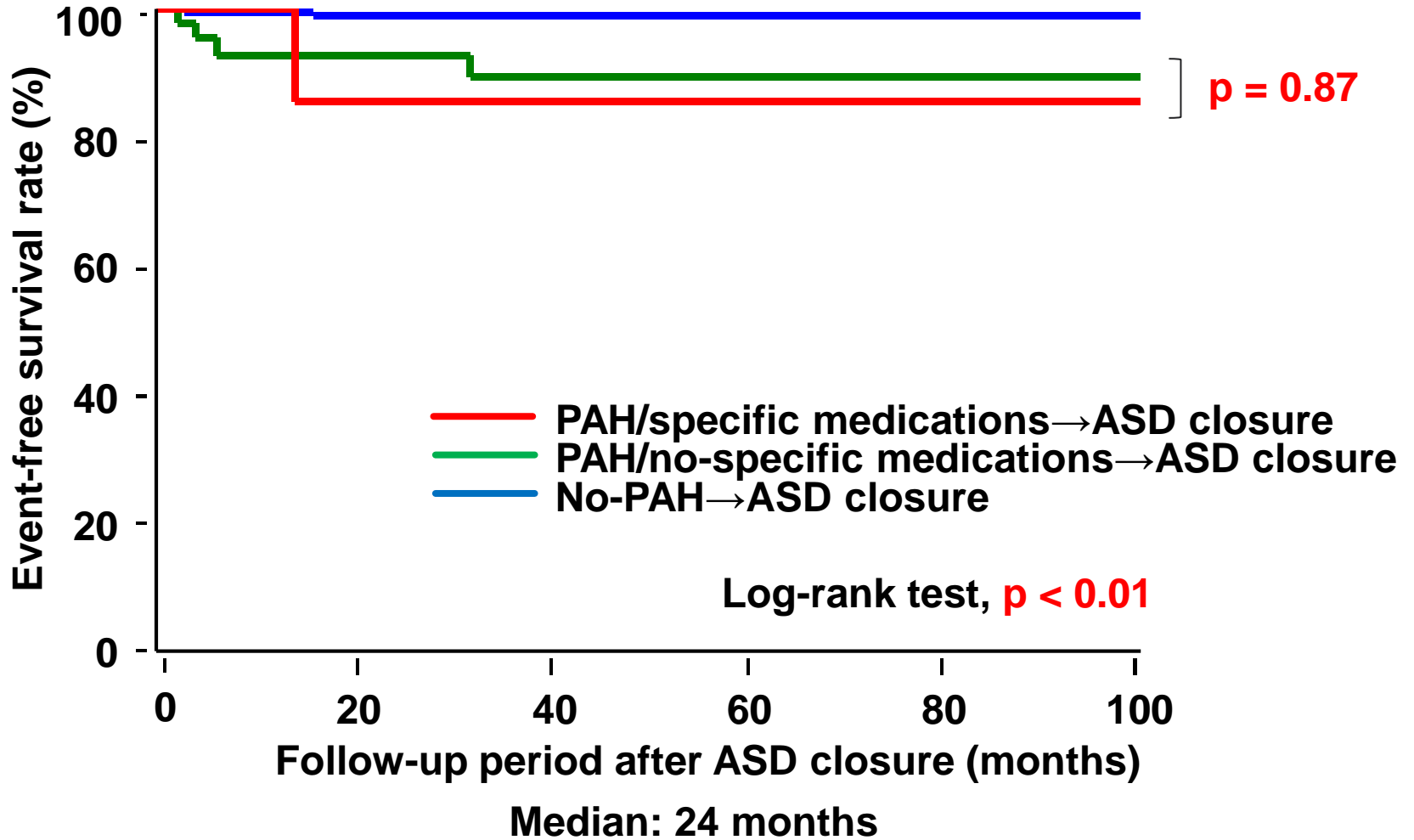


B

Non-PHM group



Prognosis



Conclusions

- Combination of PH specific medical therapy and surgical/catheter intervention may expand the therapeutic indication in patients with L-R shunt with severe PAH, who considered as inoperable patients under the conventional medical management.
- Disappearance of increased pulmonary blood flow in patients with L-R shunt disease contributes further reduction of pulmonary vascular resistance, may produce the improvement of long-term survival.