

PCI for Coronary Lesions after Kawasaki Disease



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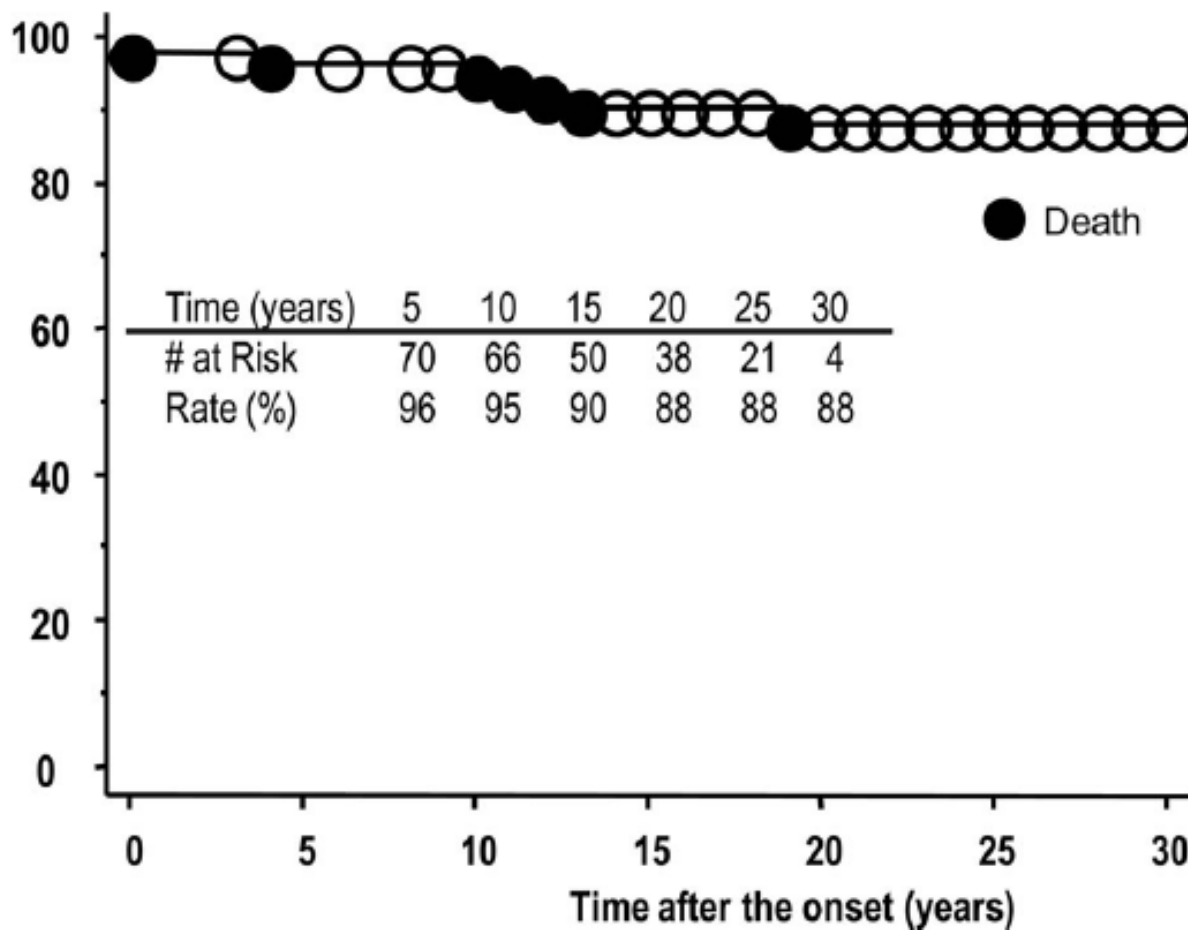
Cardiovascular Spectrum in KD

- **Coronary artery abnormalities**
 - Transient dilatation 10-15%
 - Coronary aneurysm 5-8%
 - Giant aneurysm 1-3%
- **Systemic arterial aneurysms** 1%
- **Valve abnormalities**
 - Mitral insufficiency 1%
 - Aortic insufficiency 0.2%
- **Myocardial infarction** <1%
- **Fatal cases** <0.1%

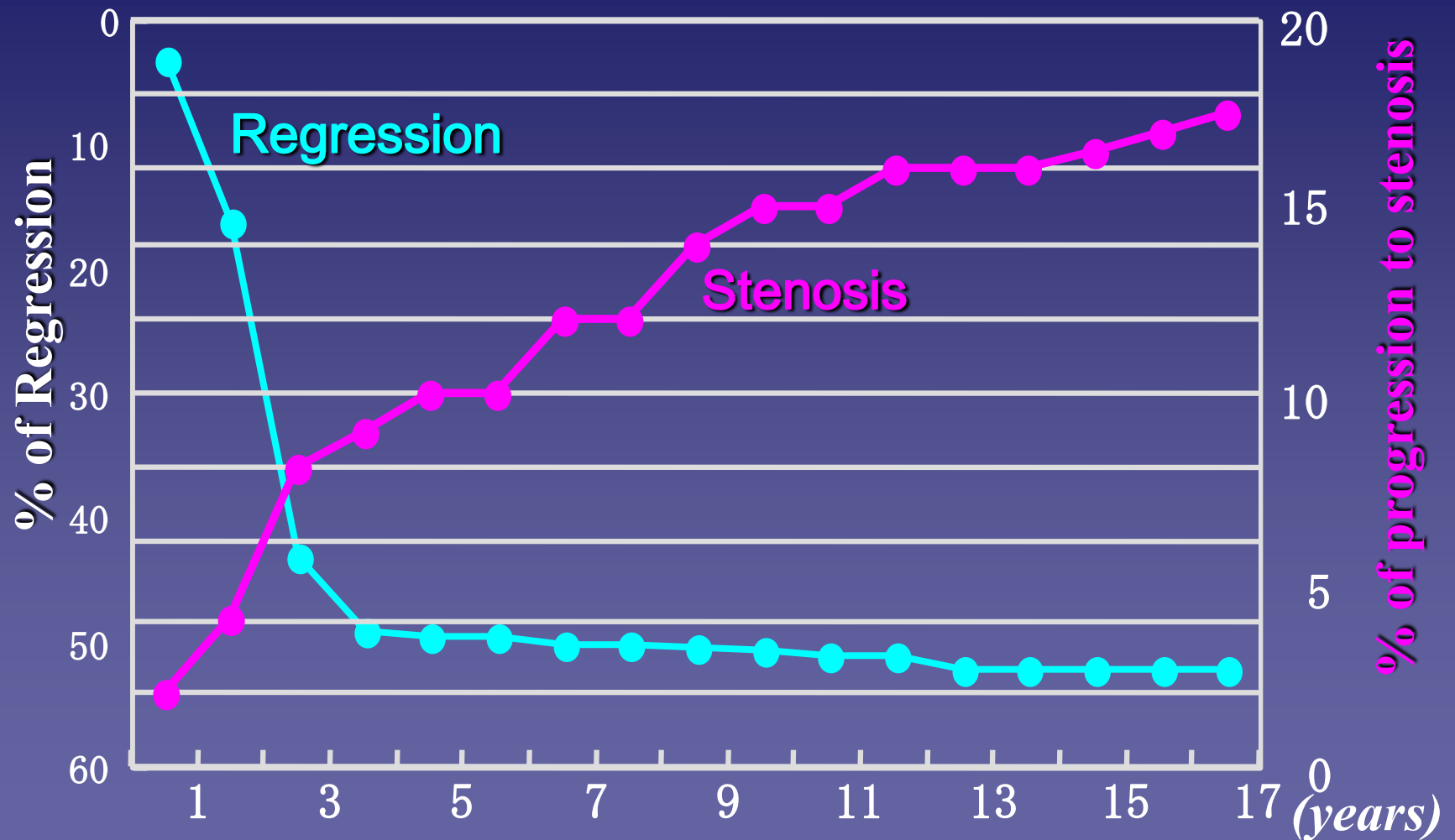
Long-Term Prognosis of Patients With Kawasaki Disease Complicated by Giant Coronary Aneurysms

A Single-Institution Experience

Survival Rate (%)



Fate of Coronary Aneurysm in KD



Kato H, Akagi T, et al. *Circulation* 1996; 94: 1379

Optimal therapeutic strategy

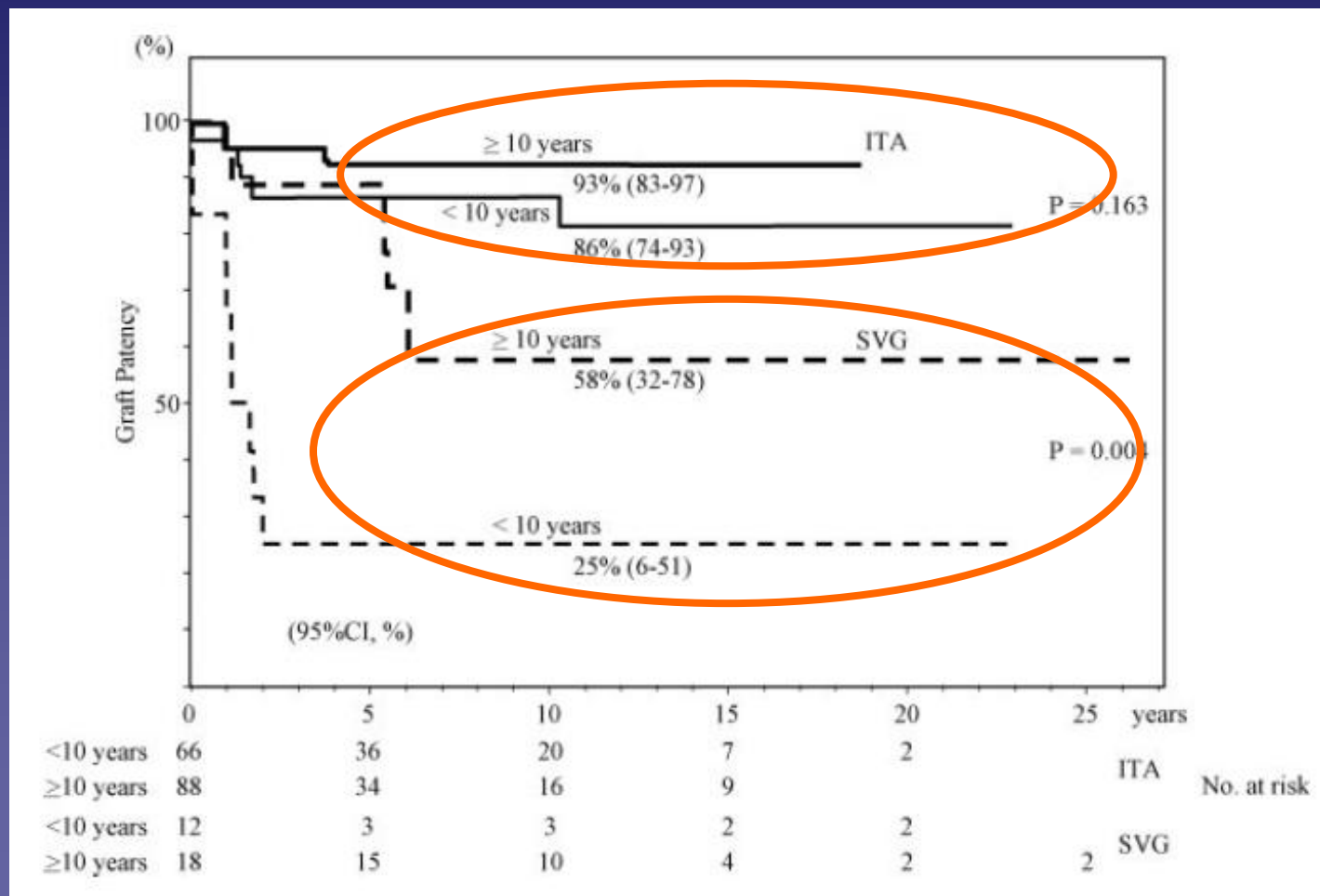
Coronary Bypass ?

or

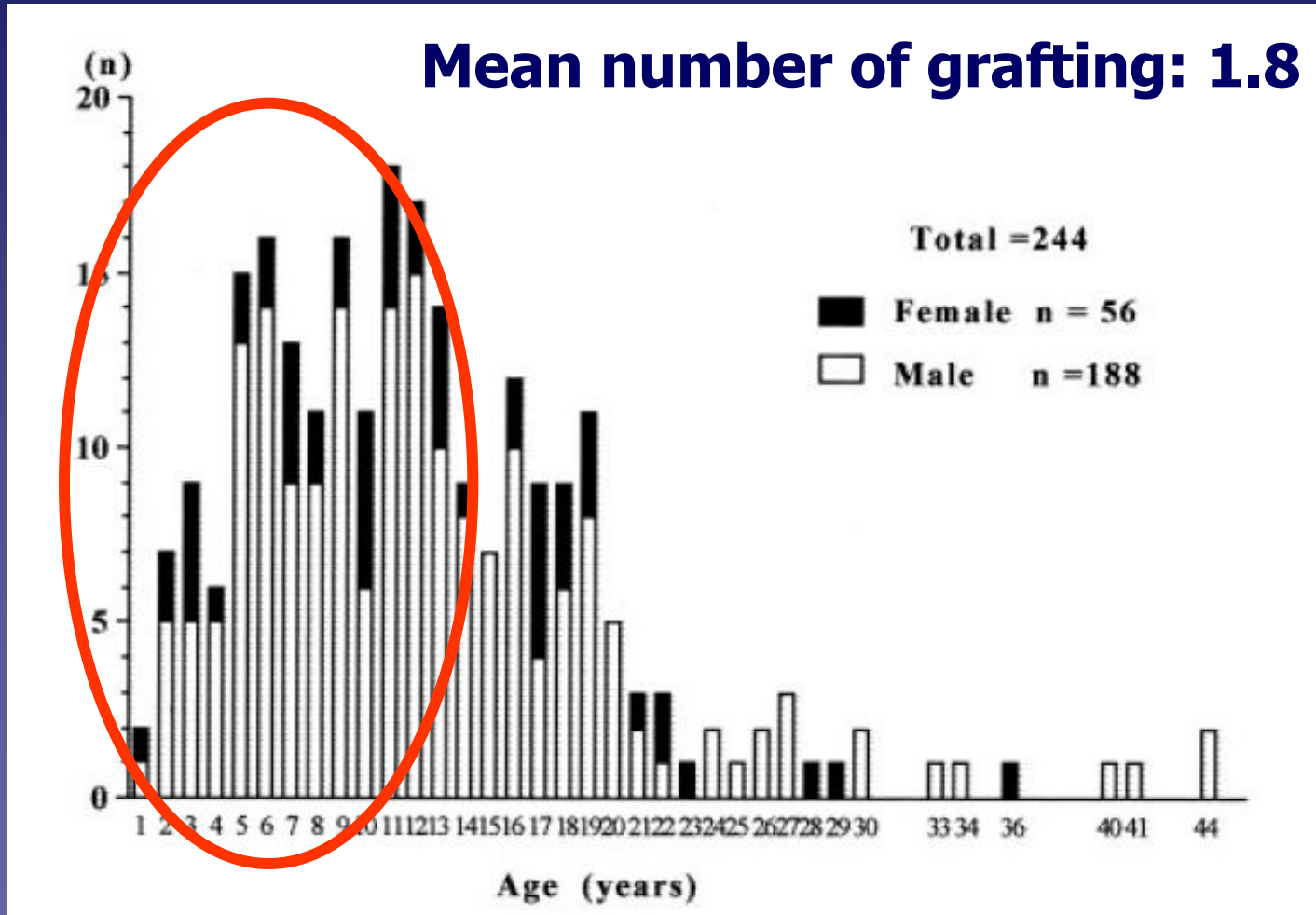
Catheter Intervention ?

Twenty-Five-Year Outcome of Pediatric Coronary Artery Bypass Surgery for Kawasaki Disease

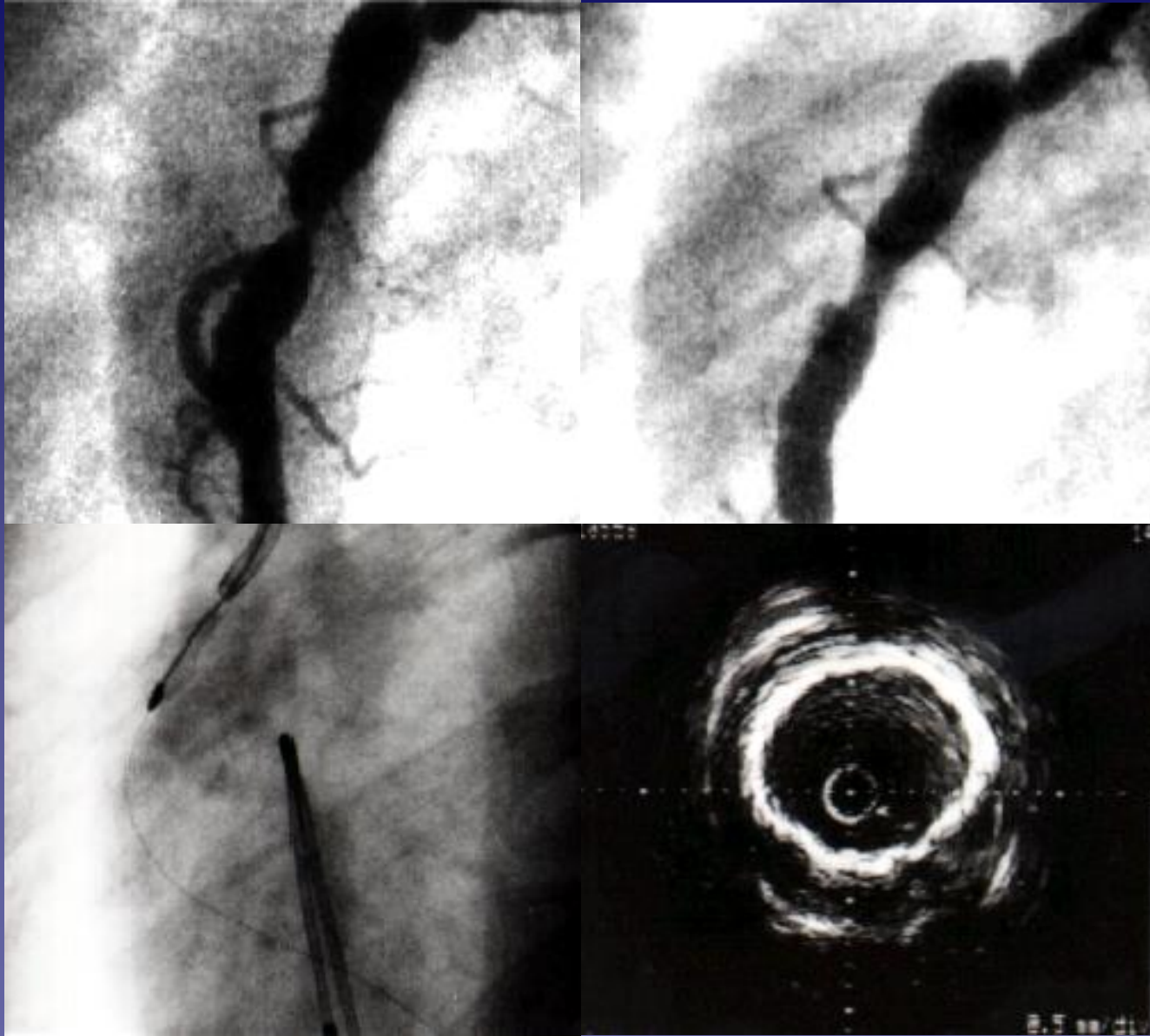
Soichiro Kitamura, MD; Etsuko Tsuda, MD; Junjiro Kobayashi, MD; Hiroyuki Nakajima, MD; Yoshiro Yoshikawa, MD; Toshikatsu Yagihara, MD; Akiko Kada, MPH



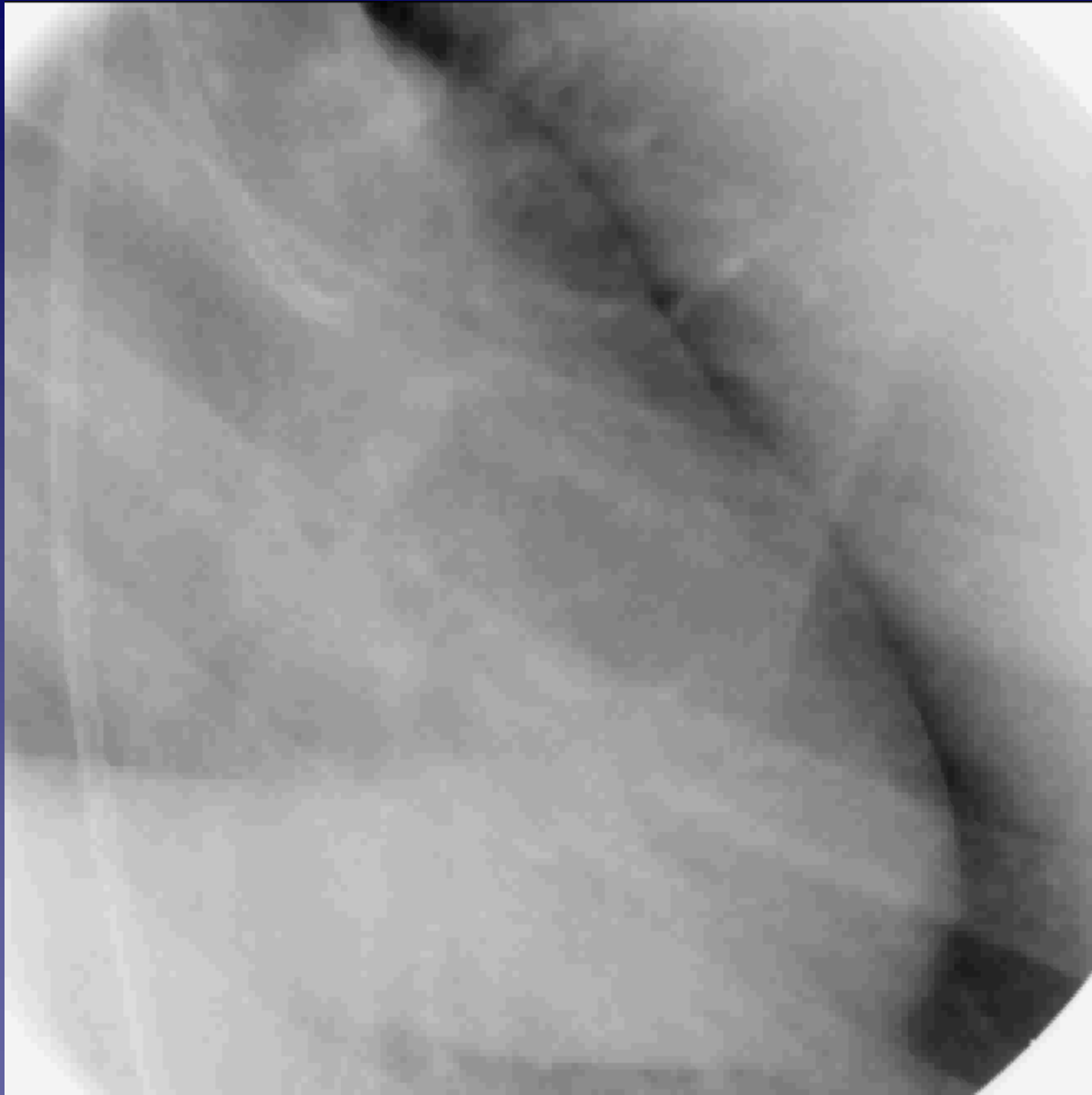
Coronary Artery Bypass Grafting in KD



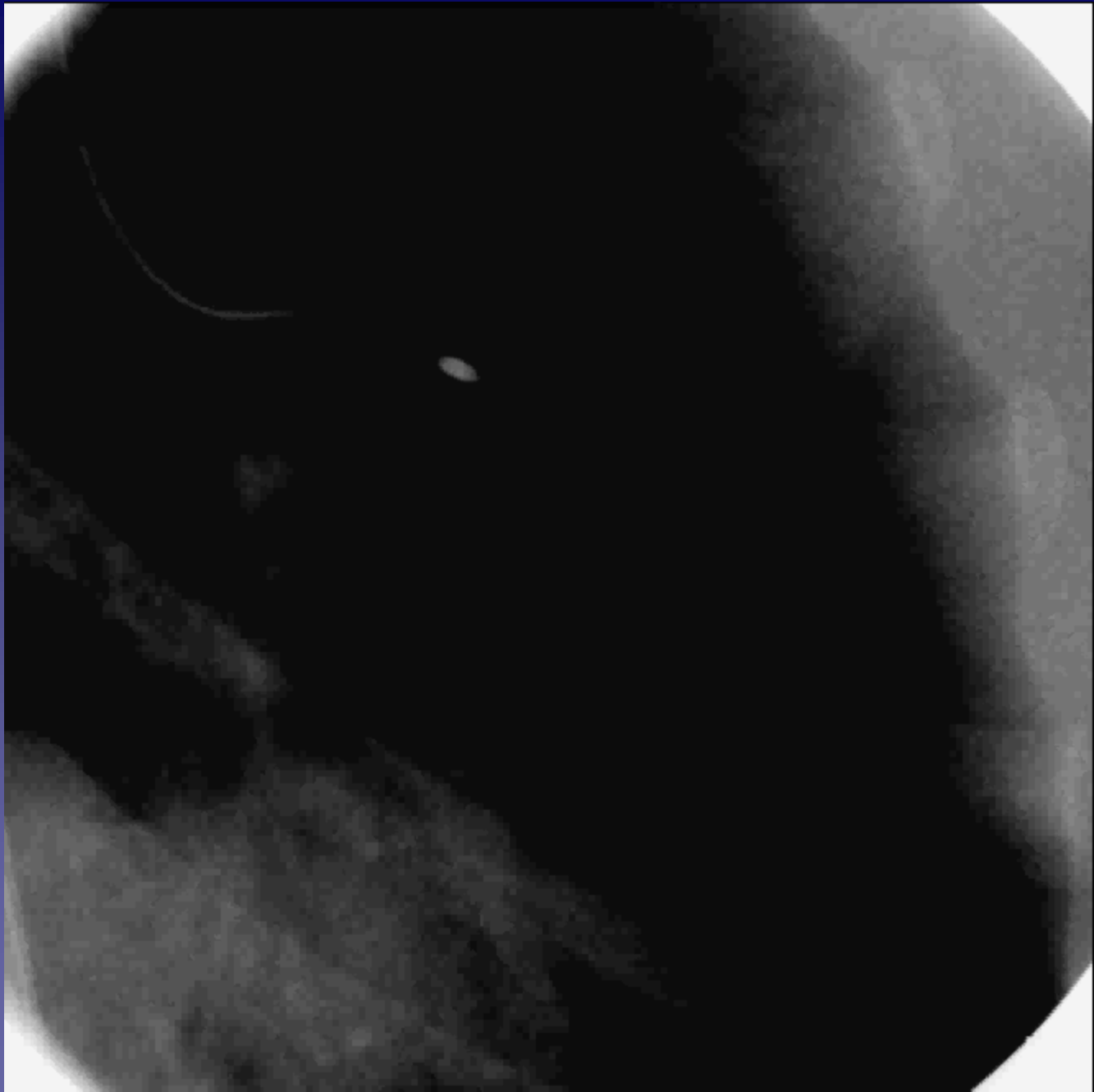
Rotational Ablation in Kawasaki disease

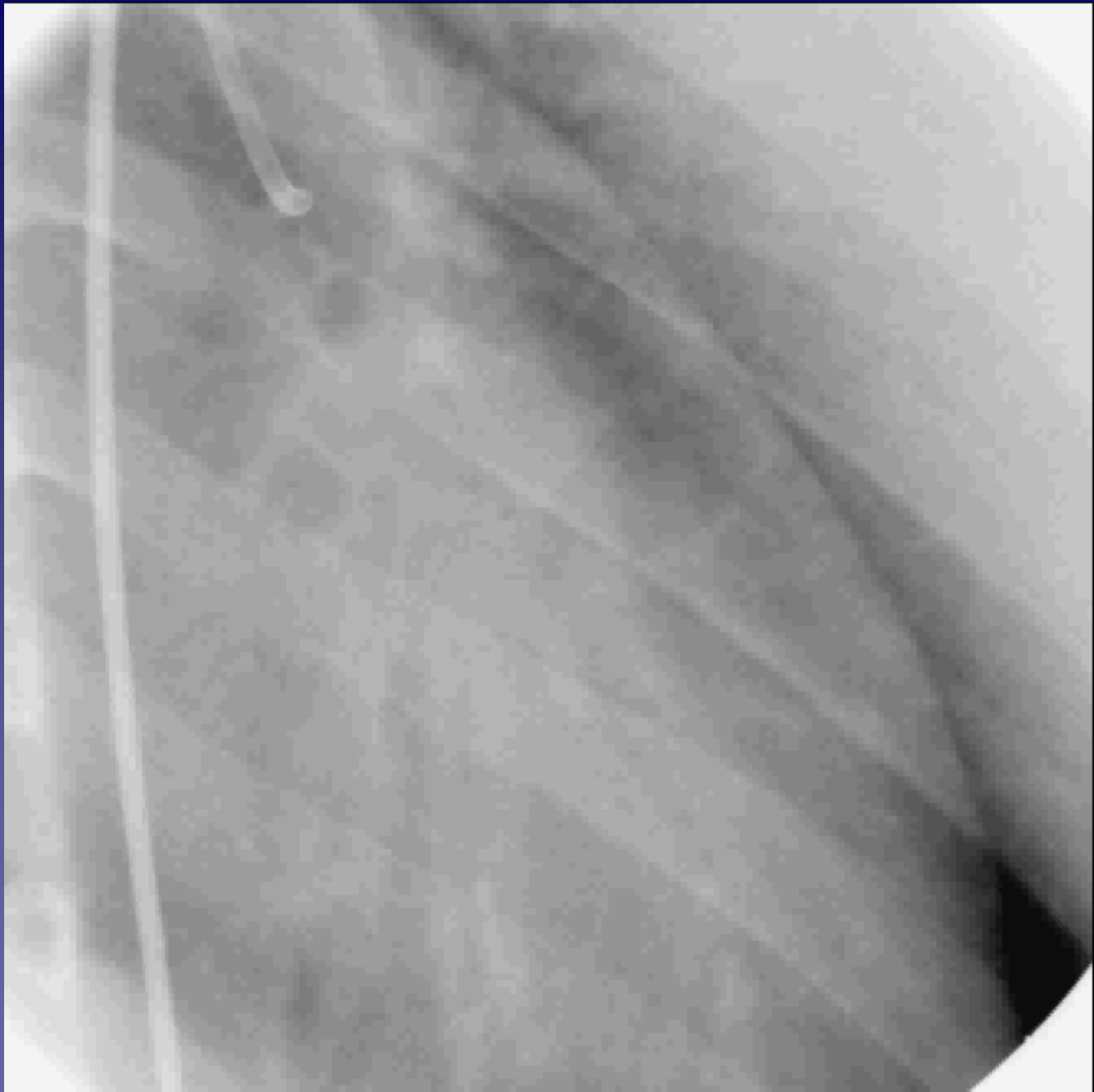


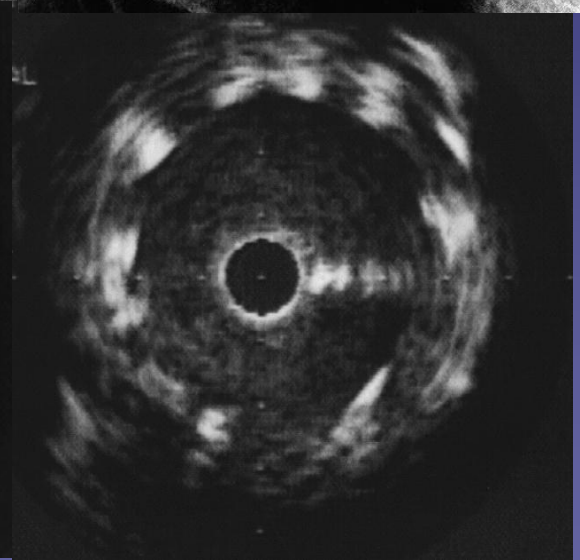
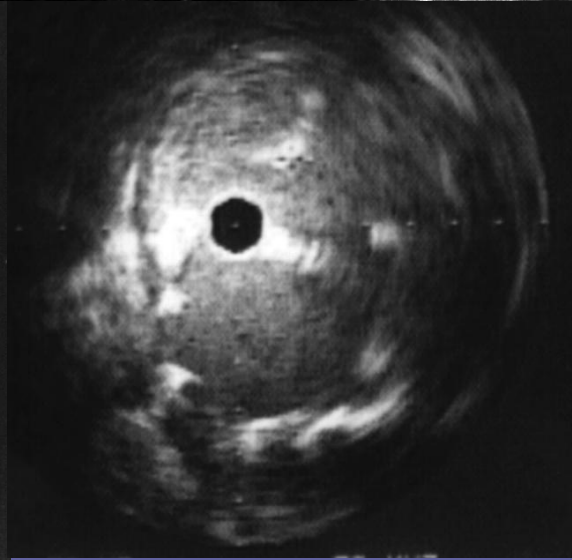
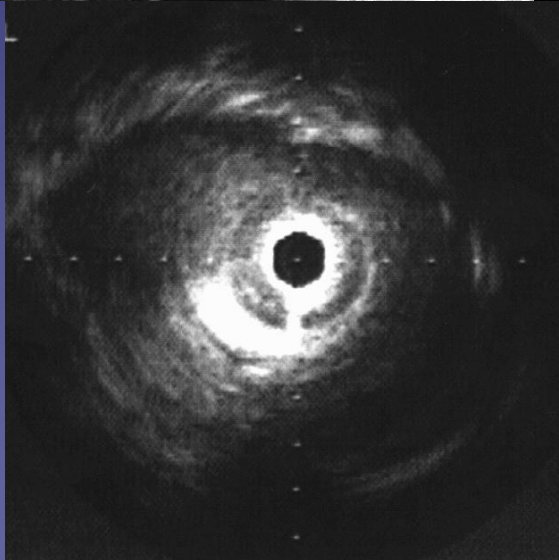
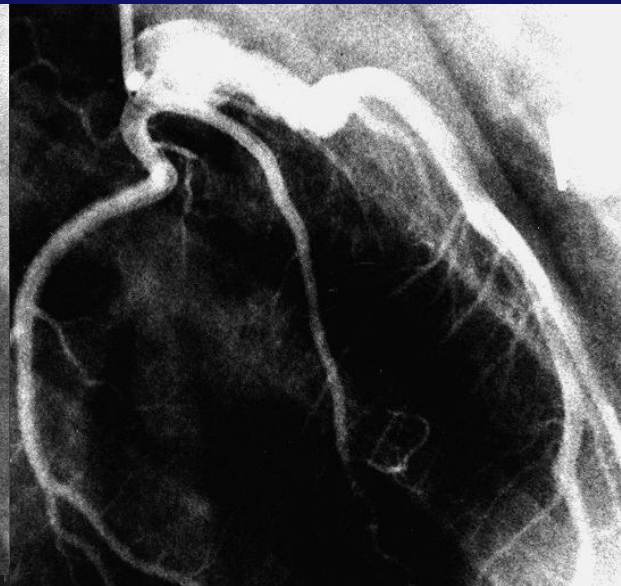
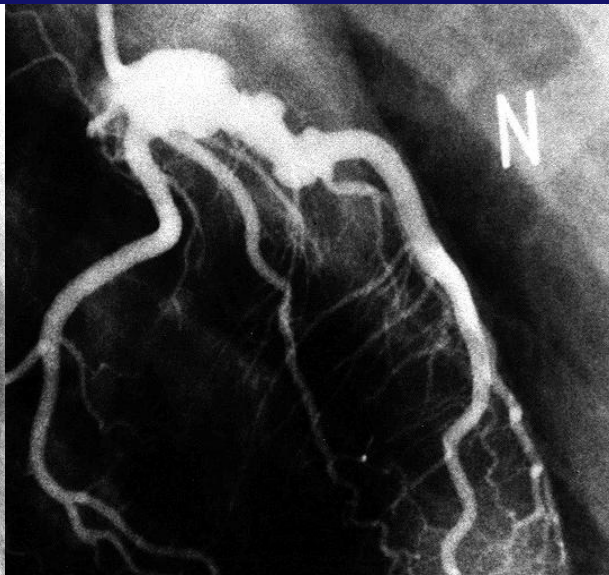
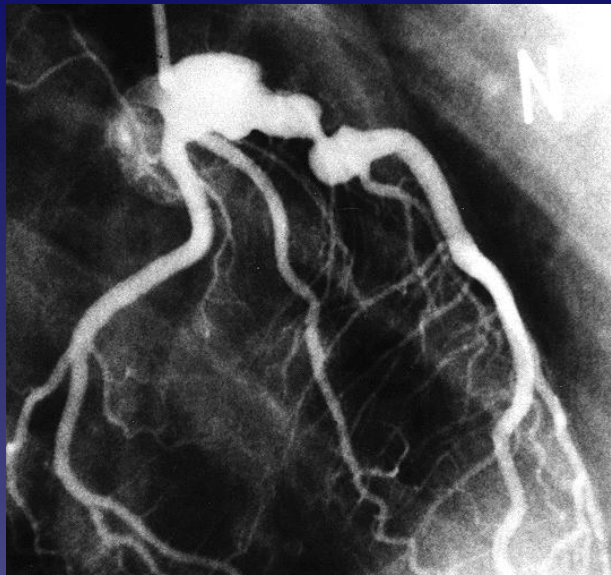
Sugimura T, Akagi T, et al. *Circulation* 1997



17 years male, (15 years after the onset)





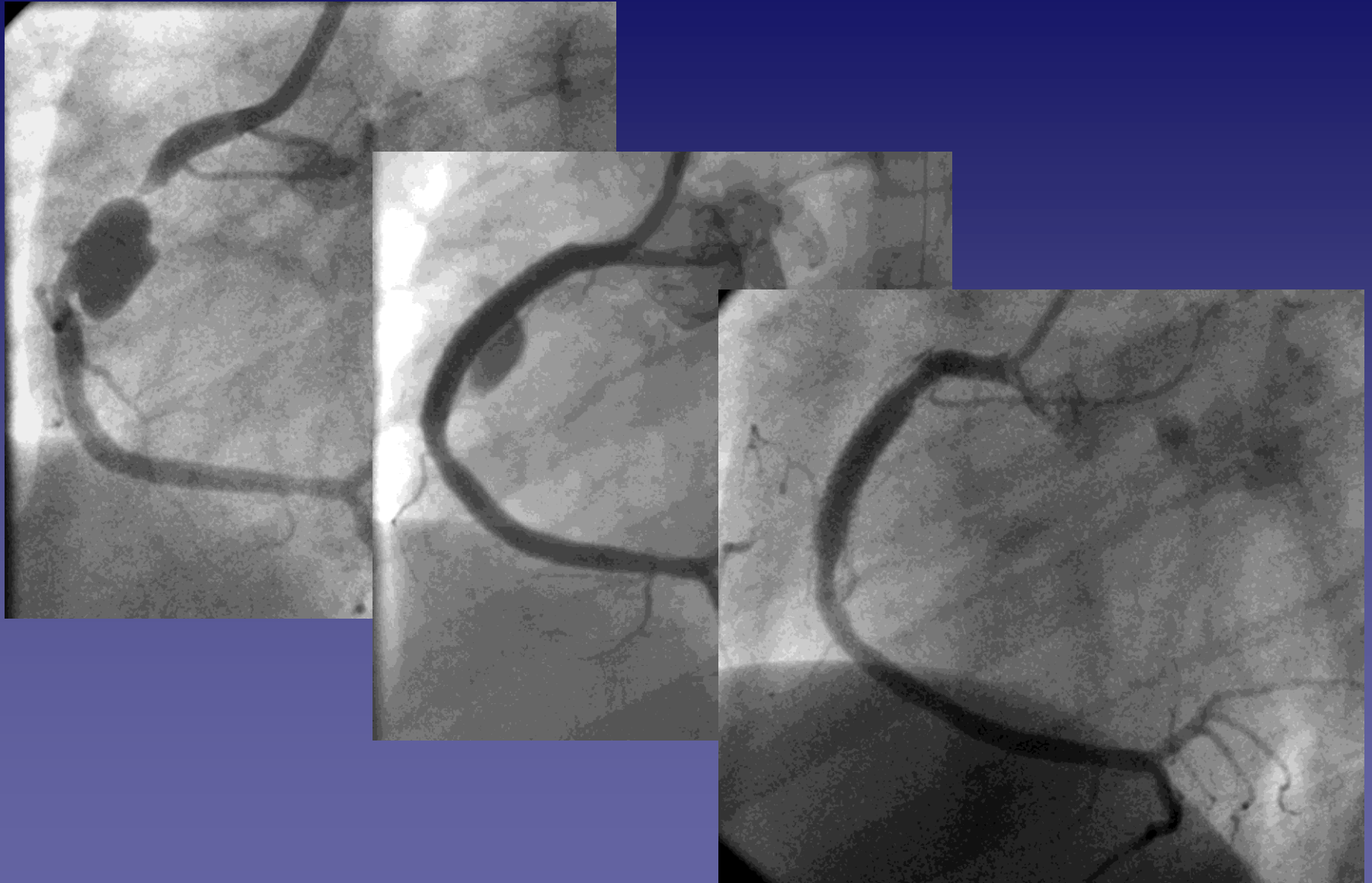


Before

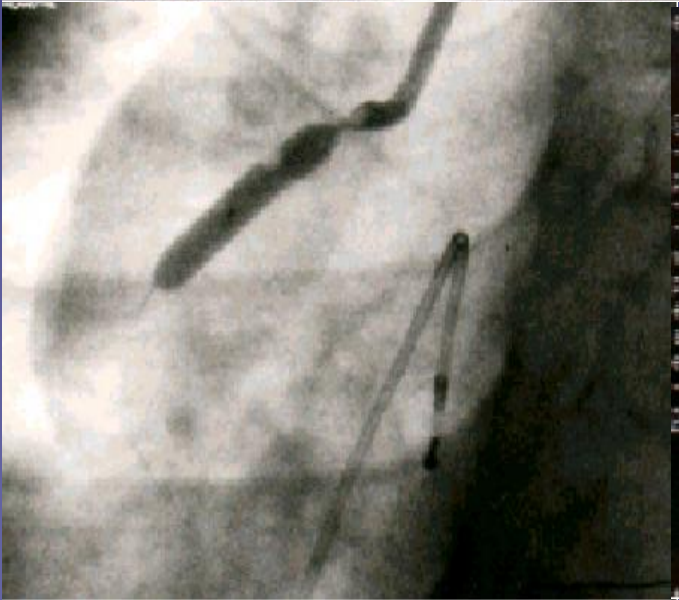
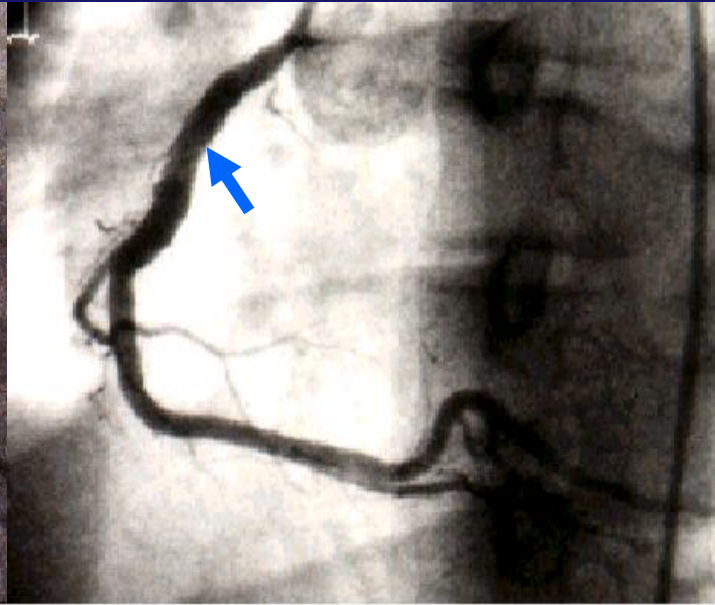
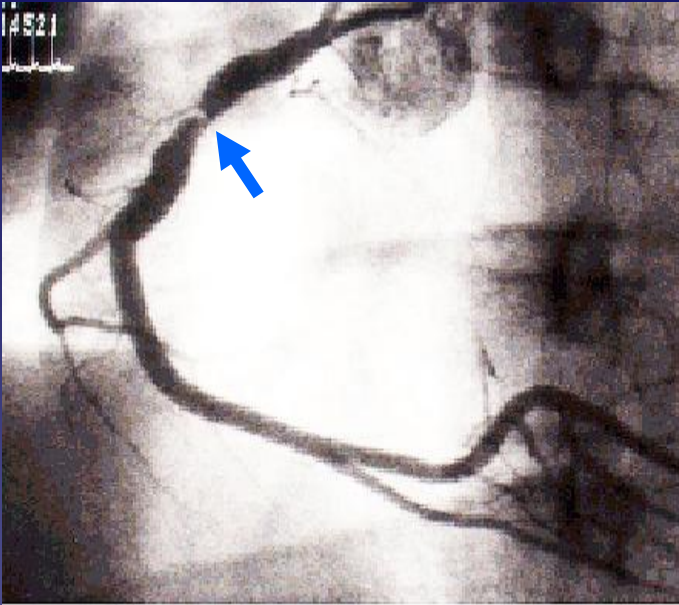
Stent implantation

Follow-up

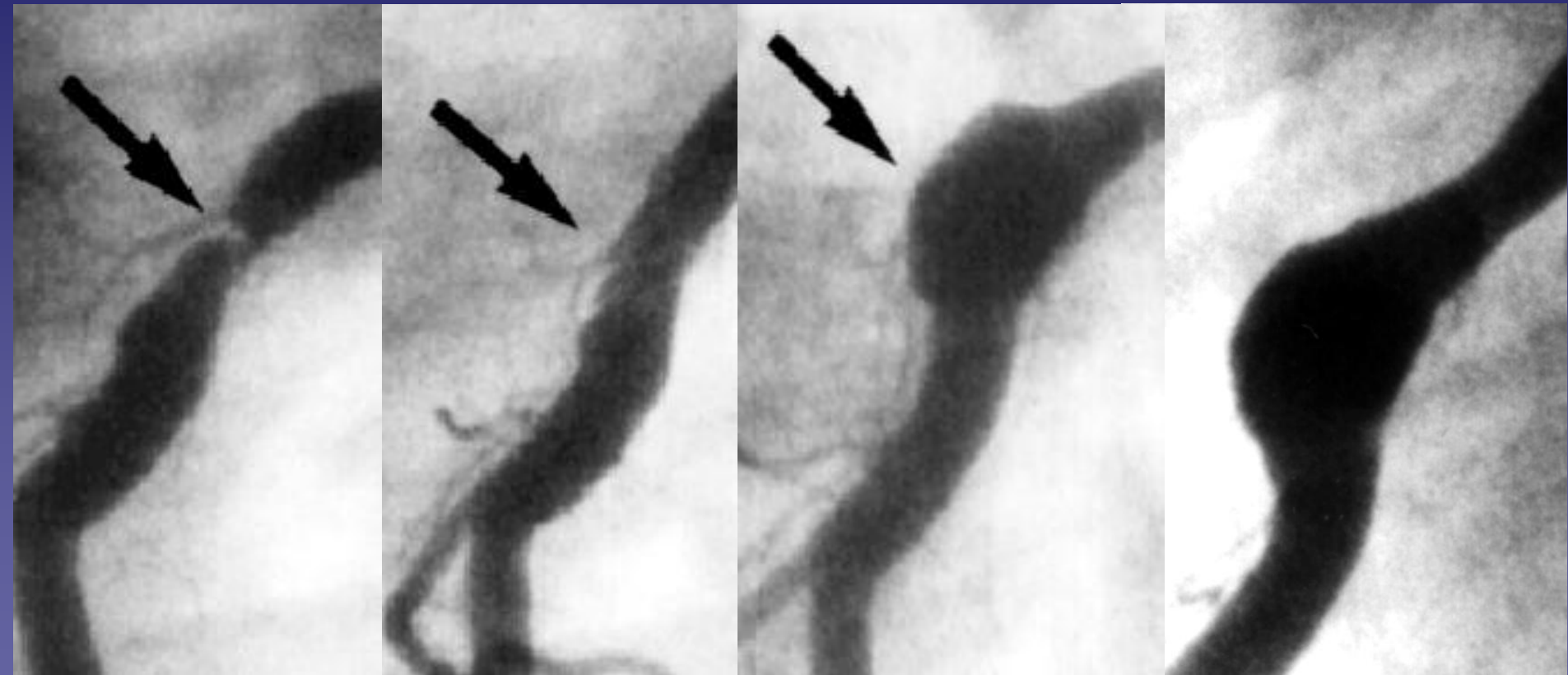
Covered Stent for Complex Coronary Lesions



High Pressure POBA in KD (K.K.13yrs)



Neoaneurysm formation after PTCA

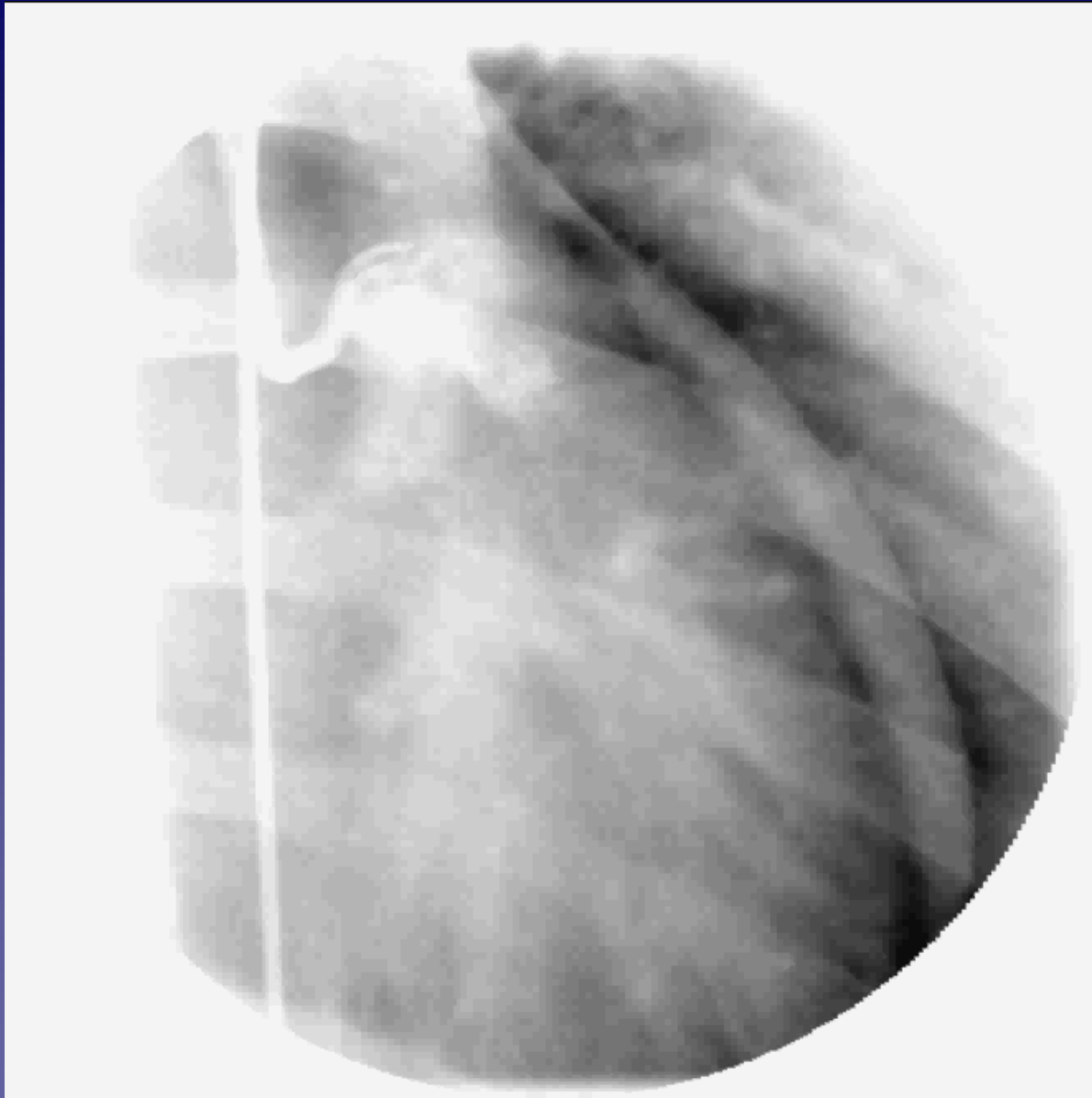


Pre PTCA

Post PTCA

4 months after

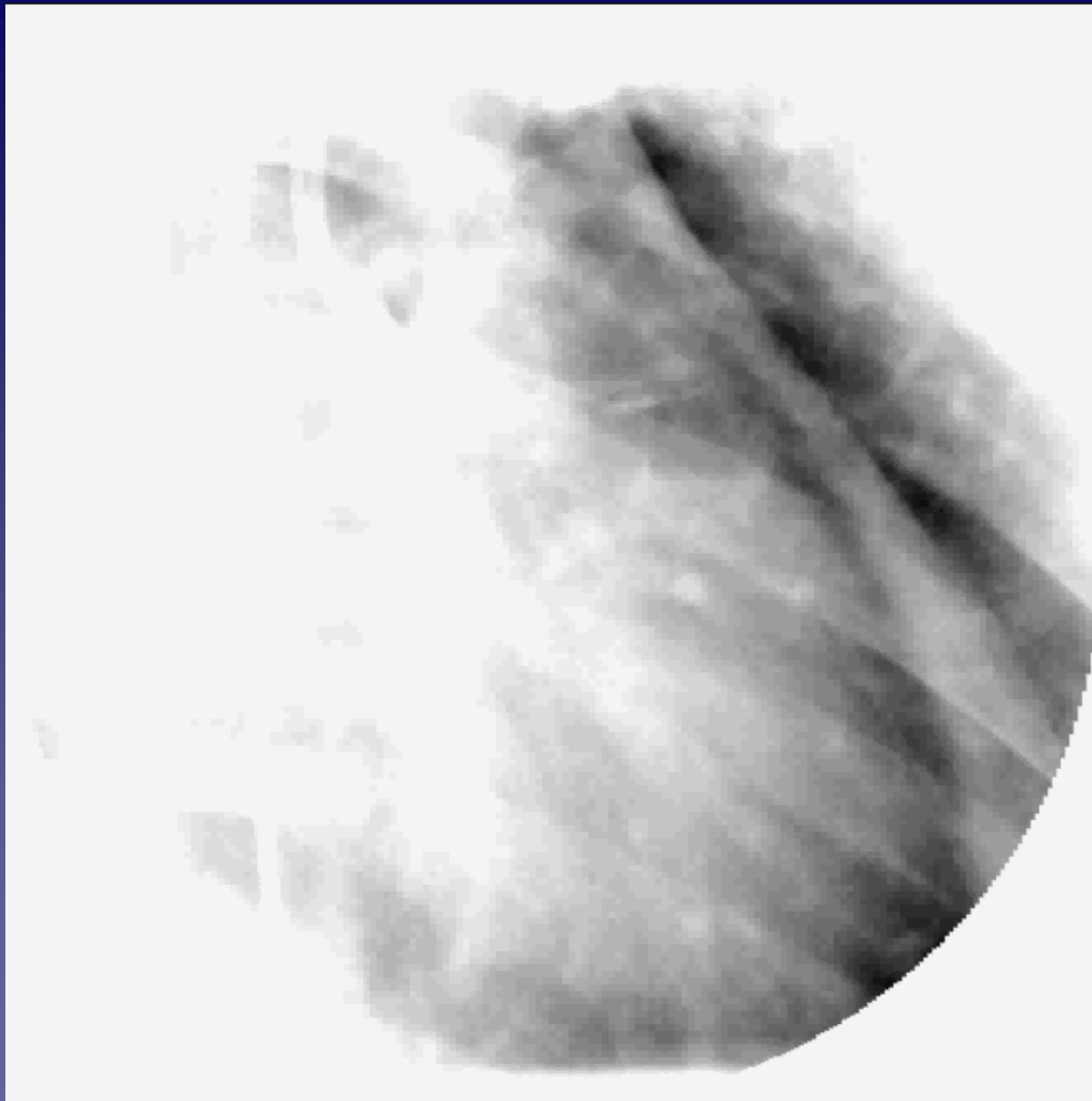
3 years after



9 years boy, 4 years after the onset



PTCA (3.5mm, 6 atm)



Immediately after



3 months after

Catheter Intervention in KD

| | <i>POBA</i> | <i>PTCRA</i> | <i>DCA</i> | <i>Stent</i> |
|----------------------------|--------------------|---------------------|-------------------|---------------------|
| <i>Number</i> | 34 | 13 | 4 | 7 |
| <i>Median Age</i> | 8.0yrs | 13.0yrs | 15.0yrs | 17.0yrs |
| <i>Success rate</i> | 74% | 100% | 100% | 86% |
| <i>Neo Aneurysm</i> | 3 cases | 2 cases | 3 cases | 1 case |

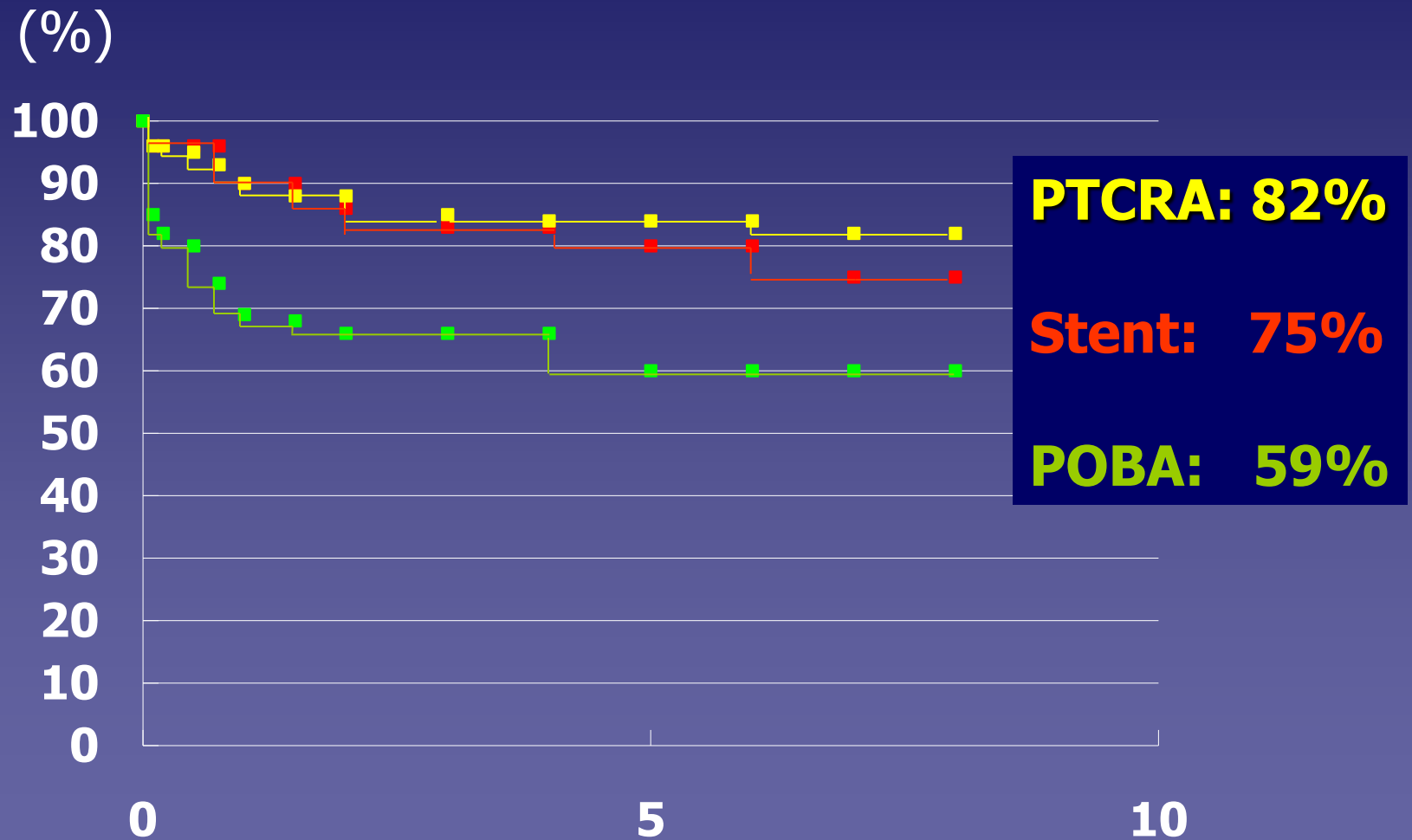
POBA -restenosis-

| | Restenosis (+) (5) | Restenosis (-) (16) | <i>p value</i> |
|-----------------------------------|-------------------------------|--------------------------------|-----------------------|
| Age at Intv. (yrs) | 9.1±4.3 | 9.7±6.9 | NS |
| Degree of stenosis (%) | 94±9 | 89±12 | NS |
| Max. balloon size (mm) | 2.9±0.5 | 3.1±0.7 | NS |
| Max pressure (atm) | 14.3±6.8 | 8.4±2.0 | 0.03 |

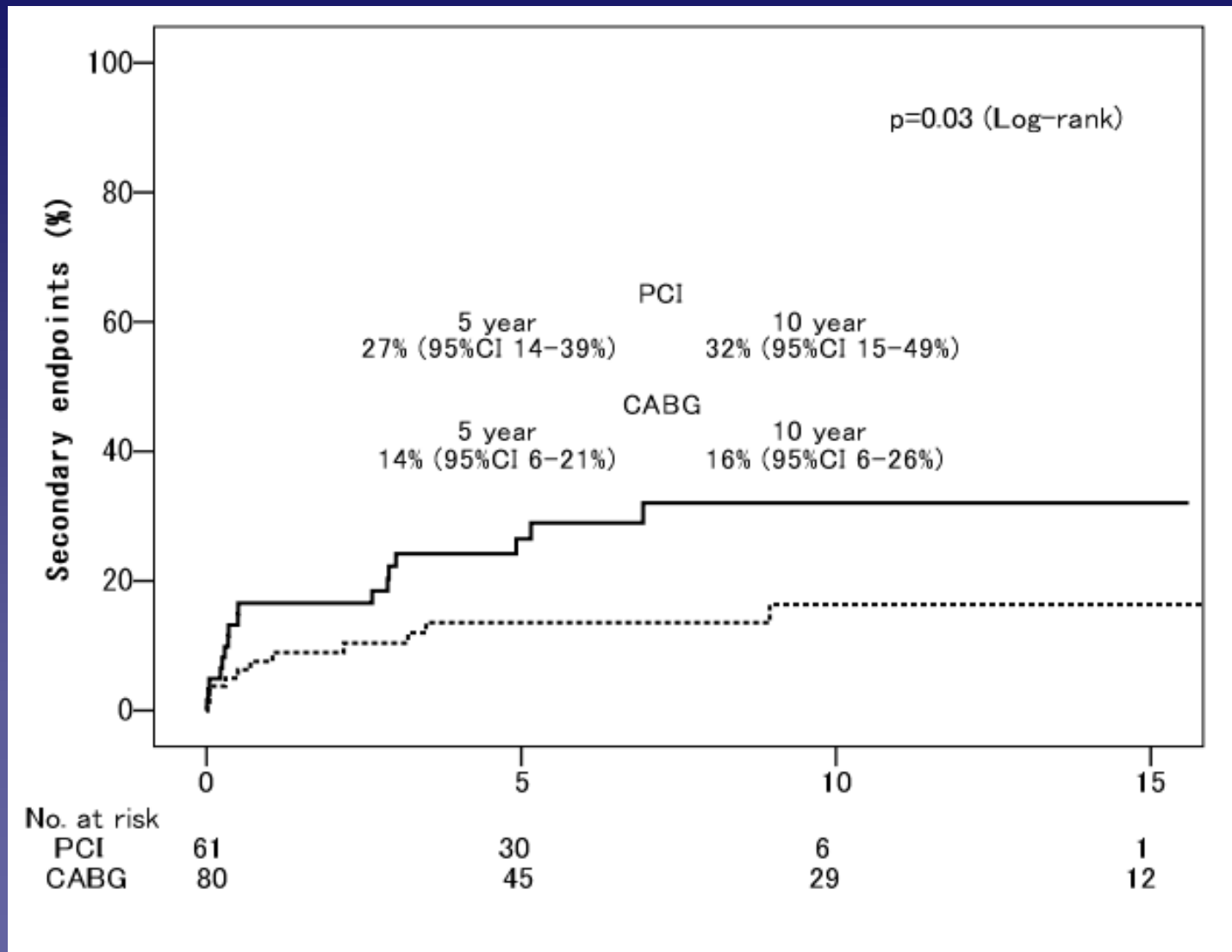
PTCRA -restenosis-

| | Restenosis (+) (12) | Restenosis (-) (56) | <i>p value</i> |
|-----------------------------------|--------------------------------|--------------------------------|-----------------------|
| Age at Intv. (yrs) | 13.3±1.9 | 14.8±3.4 | NS |
| Degree of stenosis (%) | 89±6 | 88±9 | NS |
| Burr size (mm) | 2.05±0.18 | 2.22±0.27 | 0.043 |

Freedom from re-intervention



Freedom from re-intervention after PCI or CABG



Catheter Intervention for KD

- **Stiff & calcified lesion**
Rotational Ablation
- **Prevention of neoaneurysm formation**
Low-Pressure POBA
Stent Implantation (optional)
- **Most coronary lesions are complex**
Anti-coagulation
- **Most coronary lesions are progressive**
Preventive Indication