Characteristics and Fate of Systemic Artery Aneurysms caused by Kawasaki Disease

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Presenter Disclosure Information

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FINANCIAL DISCLOSURE:
We have no relevant financial relationship.

Introduction

Systemic artery aneurysms (SAA) develop in approximately 2% of untreated patients and 10% of patients with giant coronary aneurysm caused by KD.

Circulation. 1996;94 1379-85 Kato H et al

SAA refers to aneurysms developing anywhere in the arterial system other than the coronary circulation.

Objective

The objective of this study is to clarify the characteristics and fate of SAA caused by KD.

Methods

20 pts with SAA

between 1980 and 2013 at NCVC in Japan

1. **The characteristics of the patients with SAA was analyzed, and the distribution and fate of SAA were also evaluated.**

2. **We analyzed the residual rate of SAA in the late period and the incidence of stenotic lesions in 11 pts with SAA who underwent an initial angiogram less than 4 months after the onset of KD.**

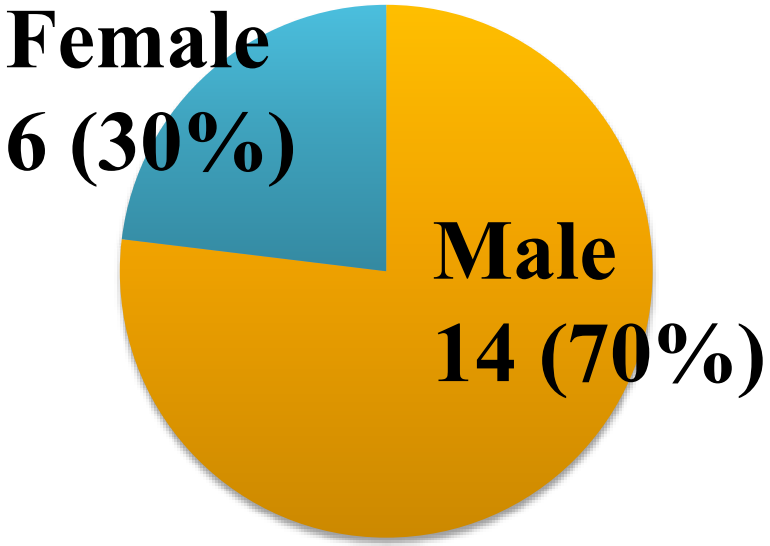
Interval from the the onset of KD to respective angiogram

	Range	Median
Initial angiogram (n=20)	1-53 months	3 months
Latest angiogram (n=17)	2-26 years	18 years

Patients

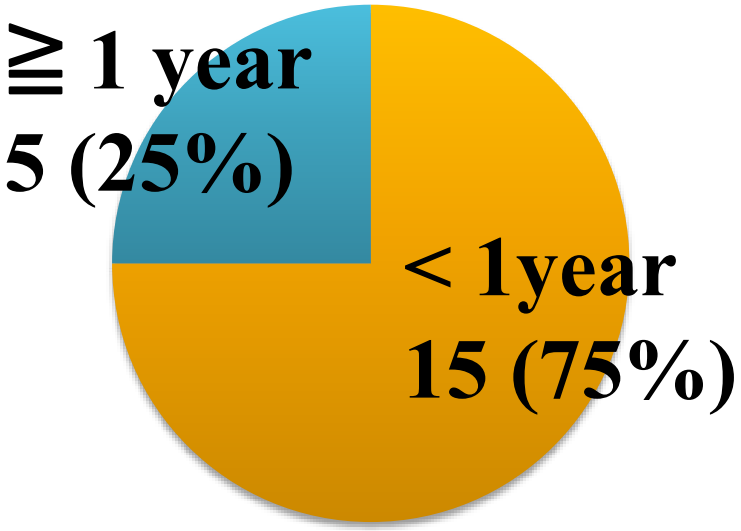
n =20

Sex



All patients had bilateral coronary aneurysms.

Onset age of KD



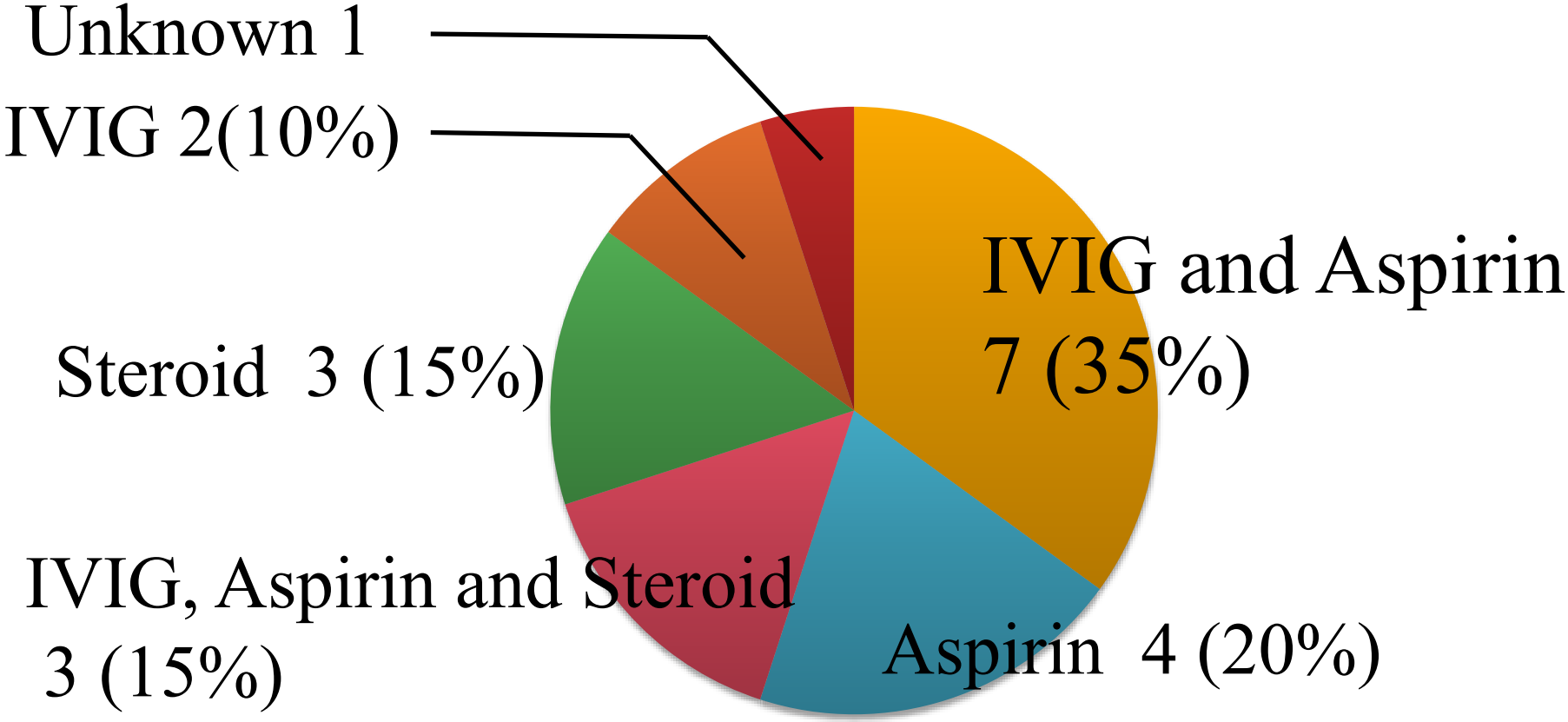
1 ~ 20 months

Median 6 months

Treatment of acute KD

n =20

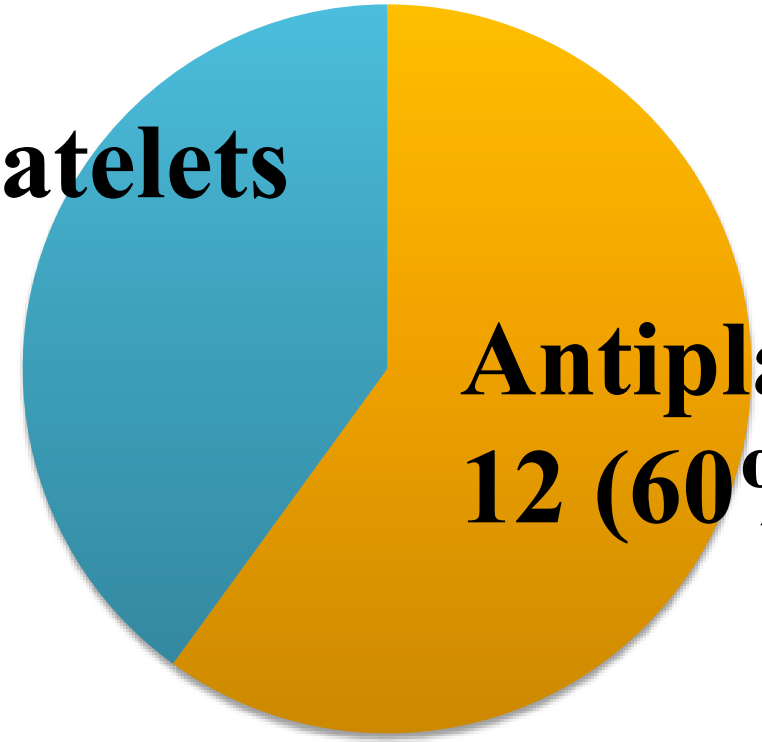
Initial therapy **5±2 of the illness day**
The mean duration of fever **24±12 days**



Treatment in the late period

n =20

Coumadin
with antiplatelets
8 (40%)



Antiplatelets
12 (60%)

Cardiac events

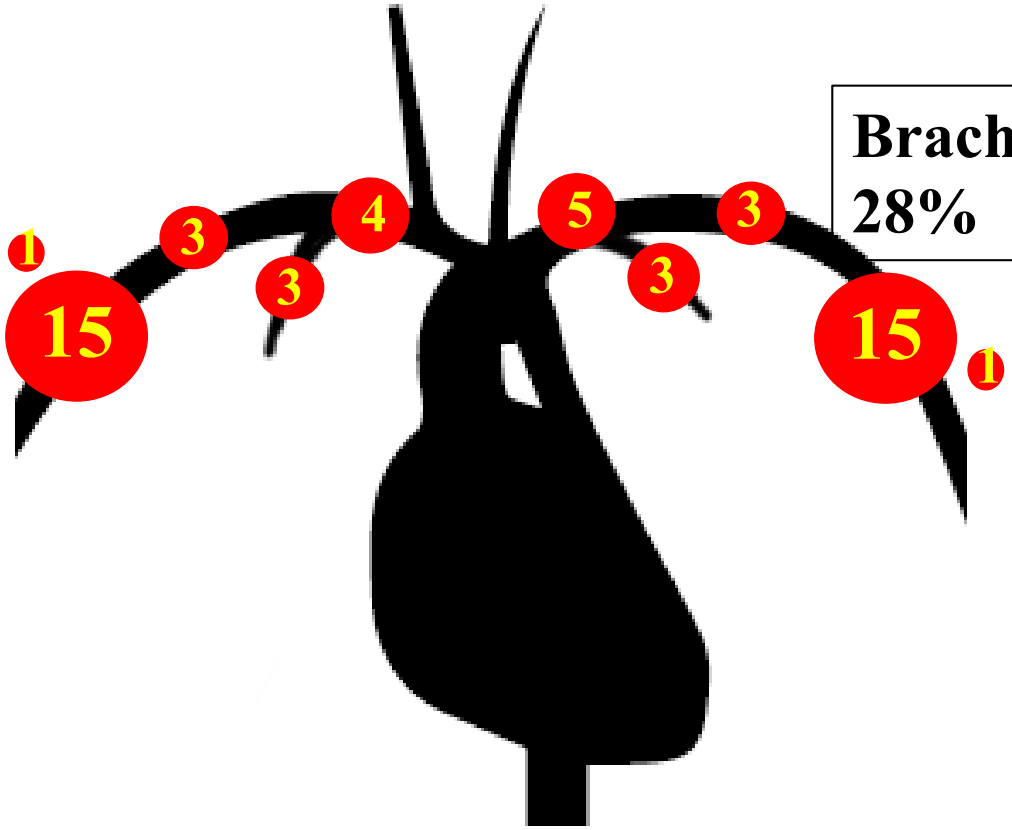
15 pts (75%)

Acute myocardial infarction	7 pts (35%)
Coronary artery bypass grafting	8 pts (40 %)
Death	4 pts (20 %)

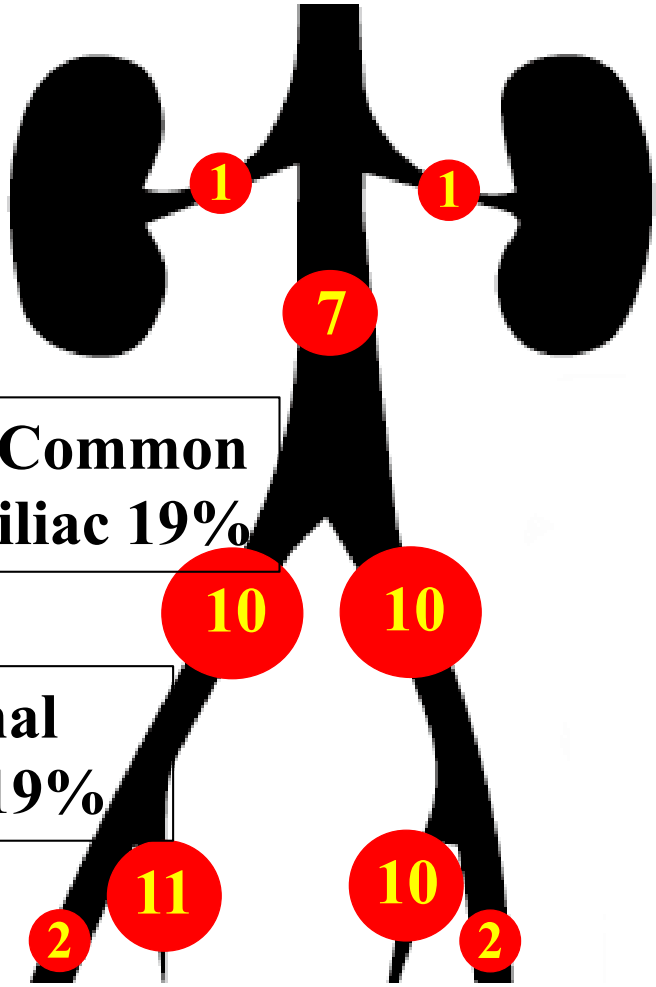
Distribution of SAA

total =108

Upper extremities



Brachial 28%



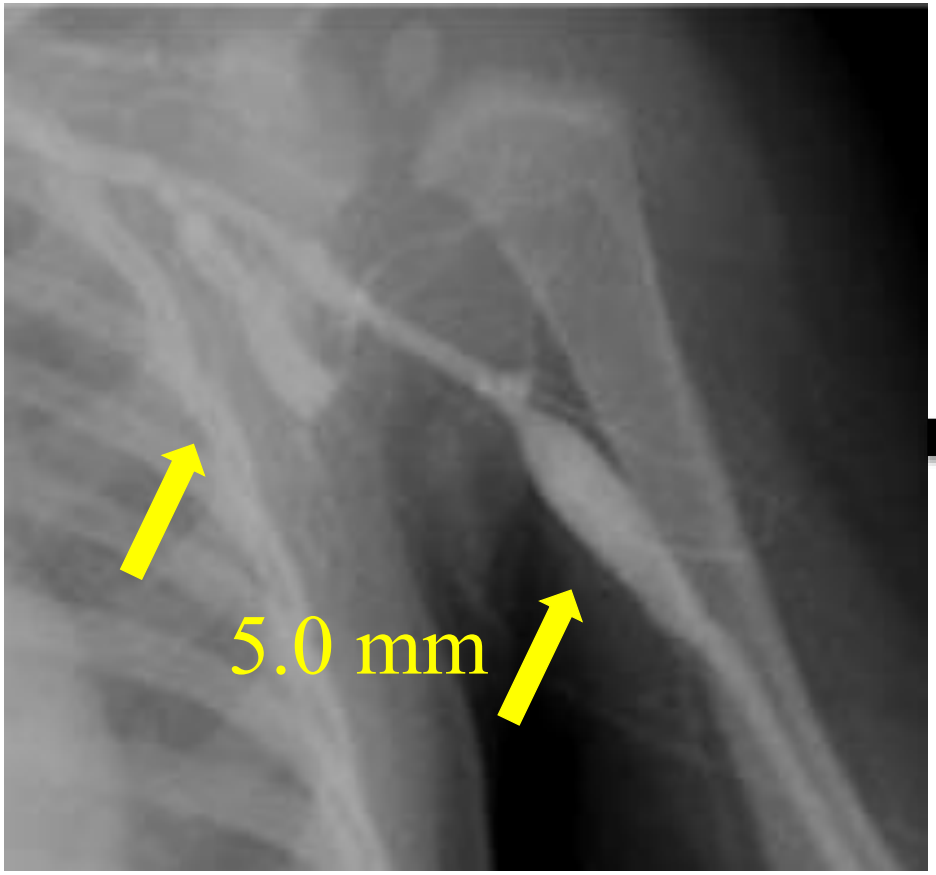
Common iliac 19%

Internal iliac 19%

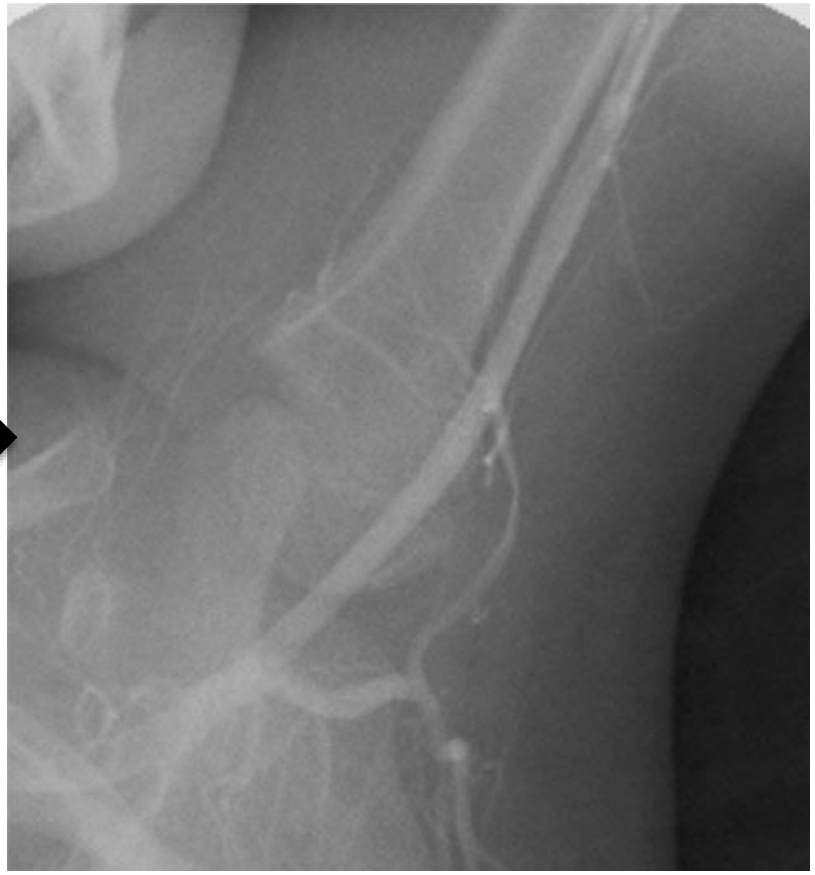
Lower extremities

Regression of aneurysm in brachial artery

6 months

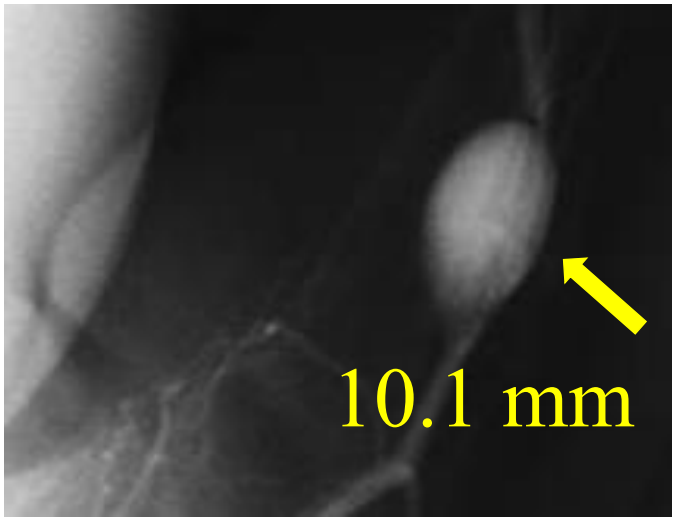


6 years



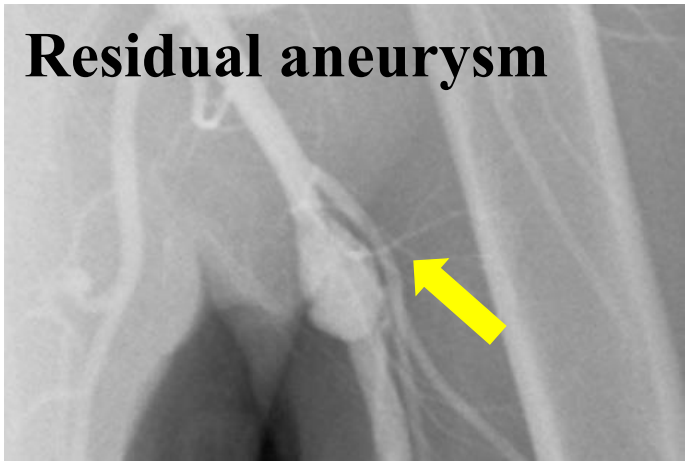
Changes of aneurysms in brachial arteries

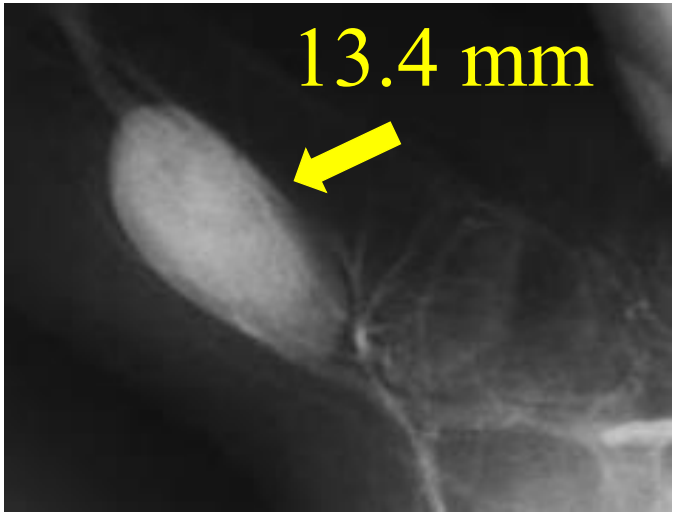
7 months



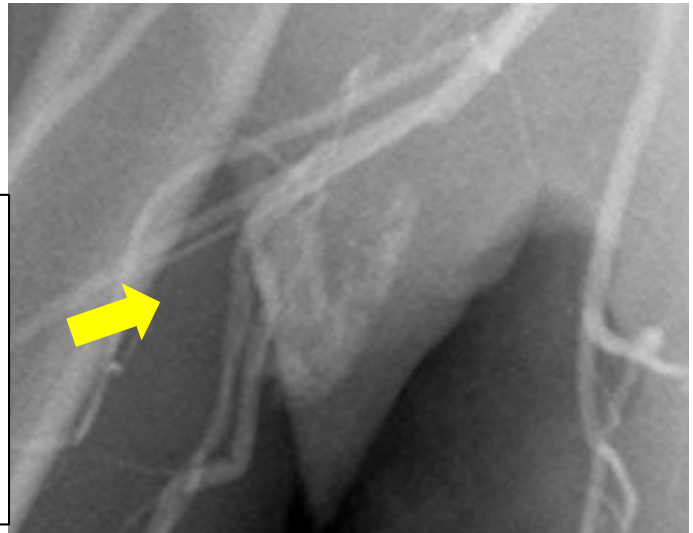
Left

18 years





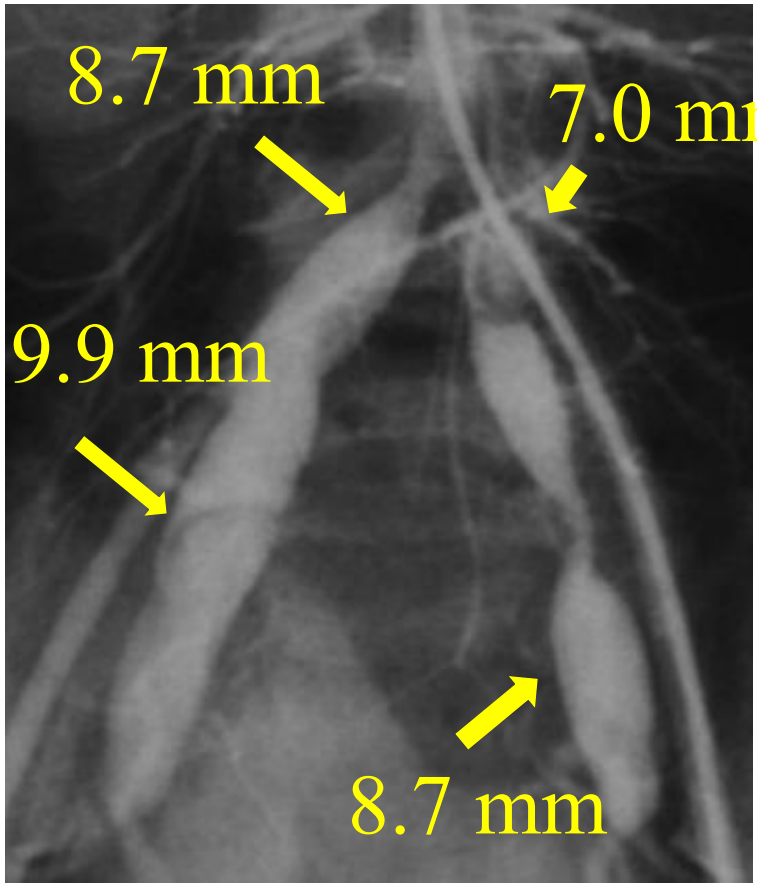
Right



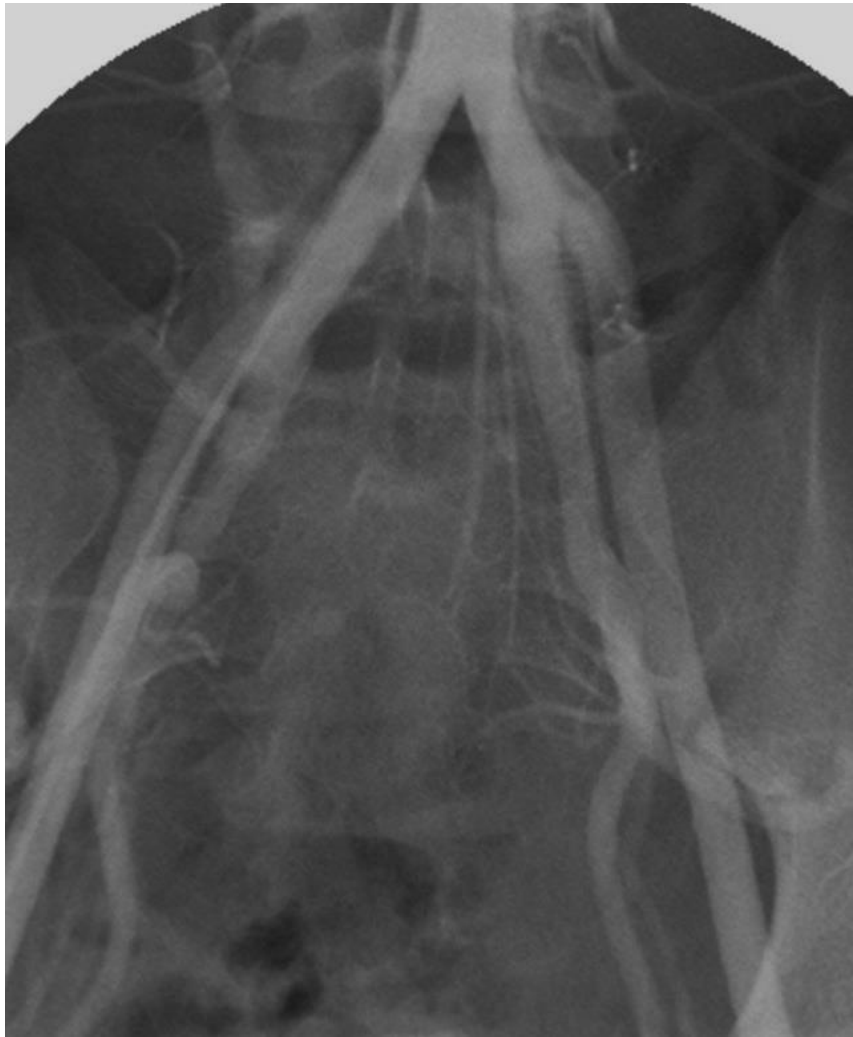
Segmental stenosis with calcification

Regression of aneurysms in bilateral common and internal iliac arteries

20 months

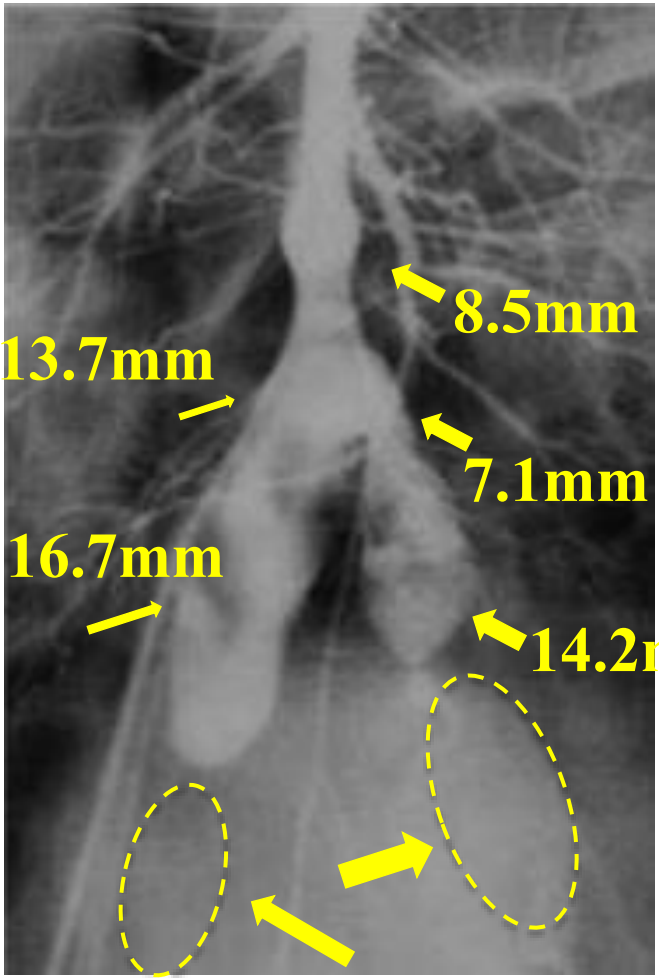


13 years

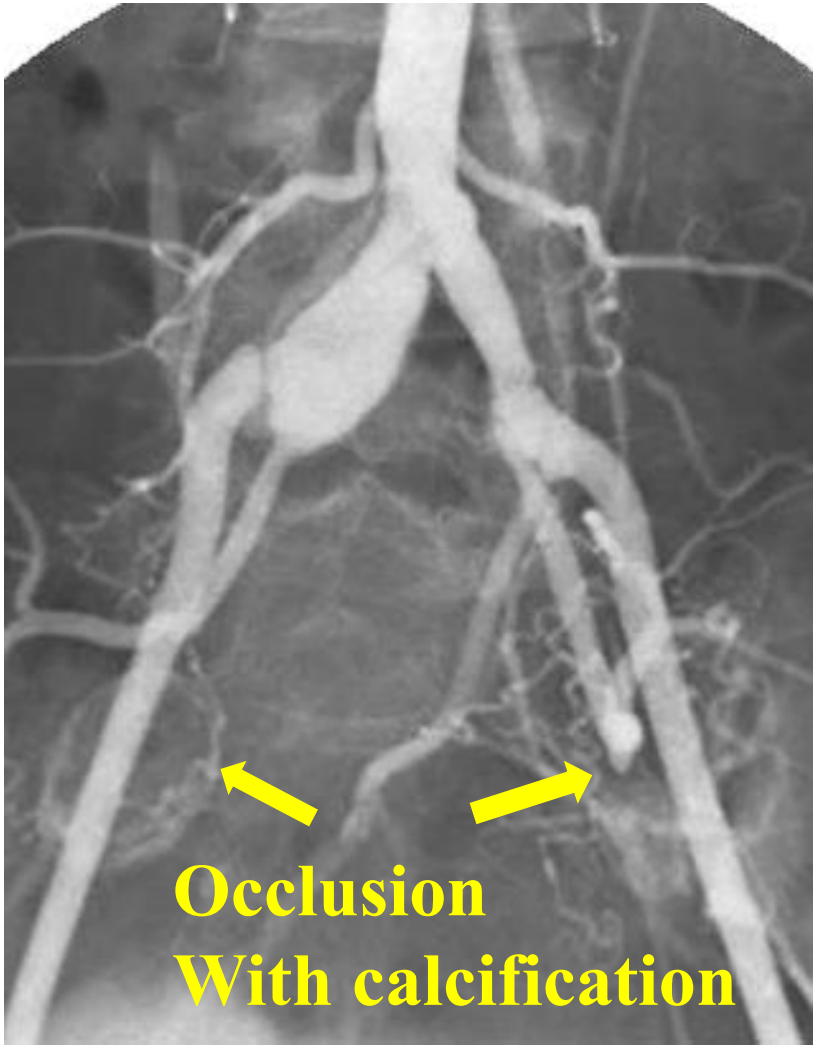


Changes of aneurysms in bilateral iliac arteries and abdominal aorta

7 months



22 years



Abdominal angiogram after surgery

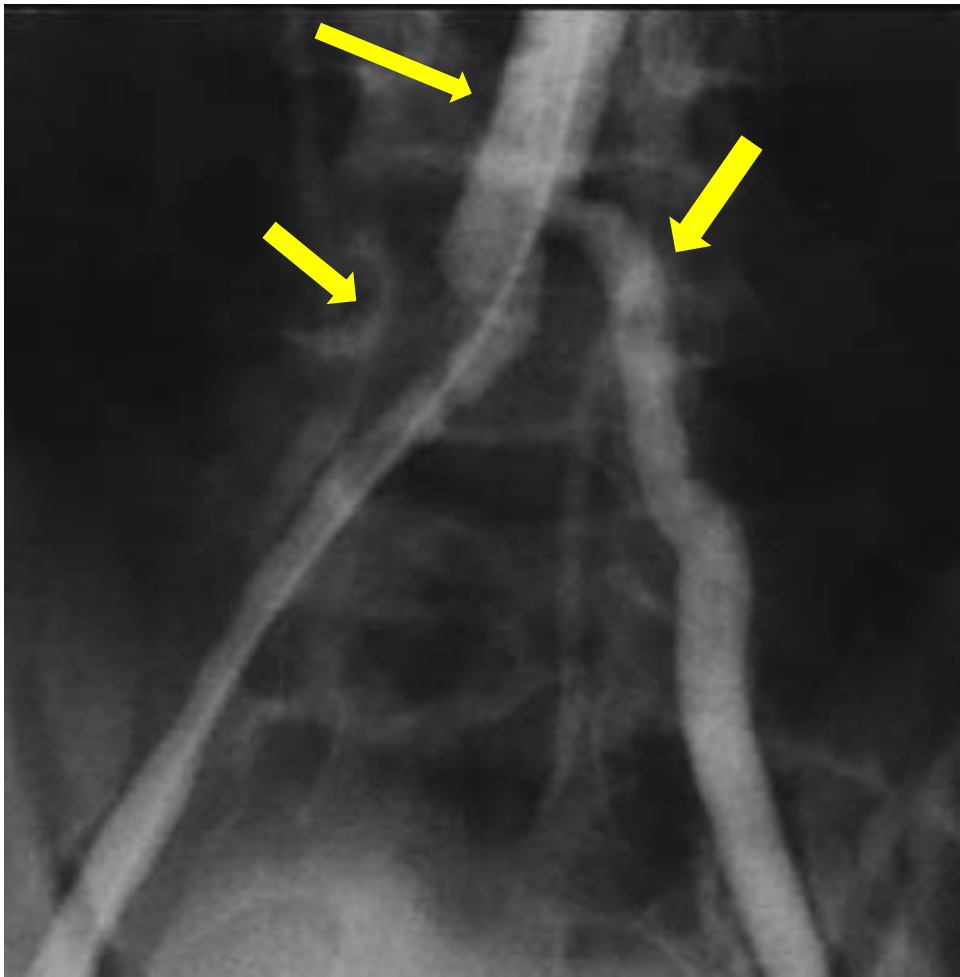
18 years

7 months old

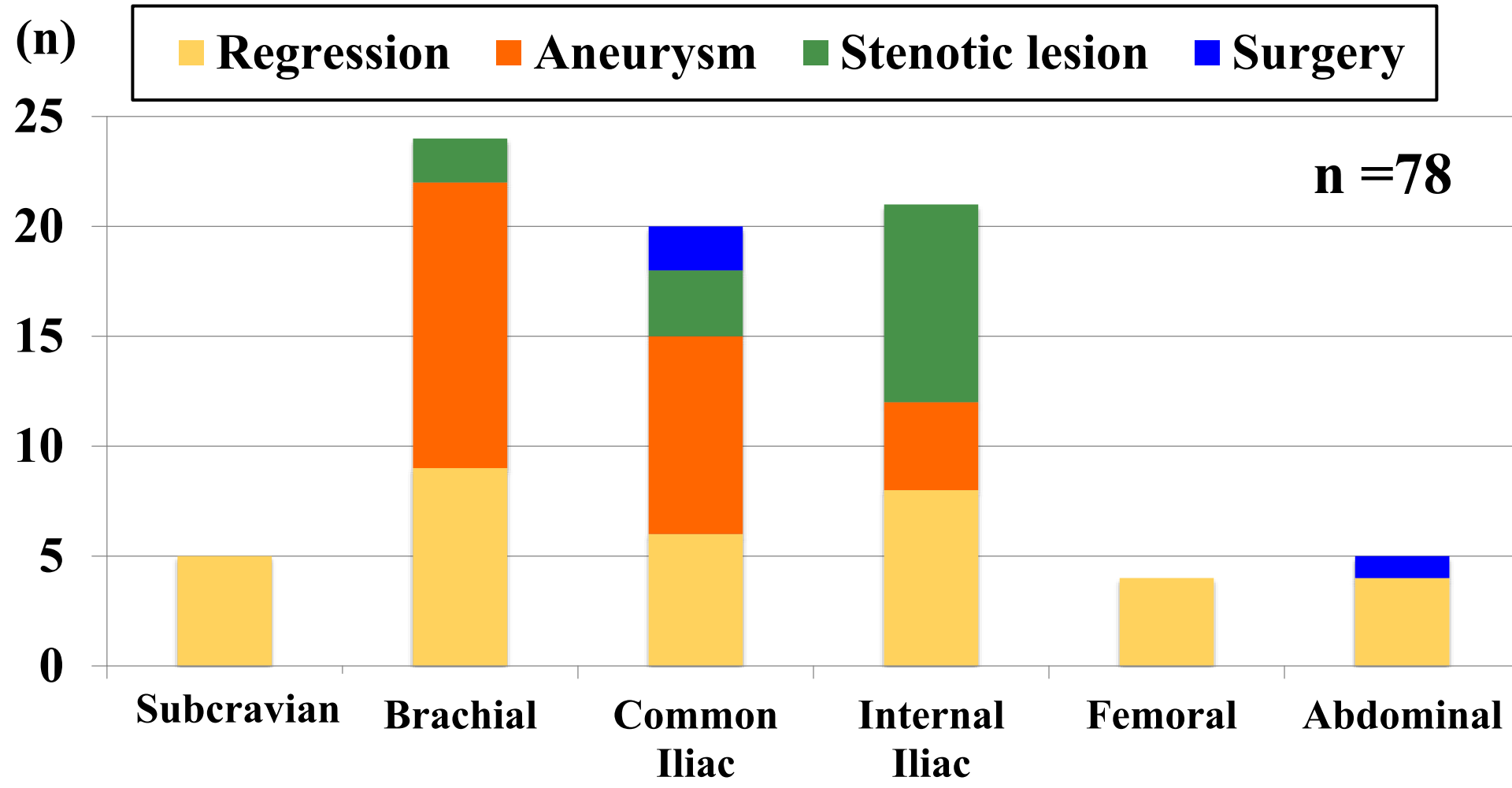
Abdominal aorta aneurysm and bilateral common iliac aneurysms ≧ 30 mm

23 months old

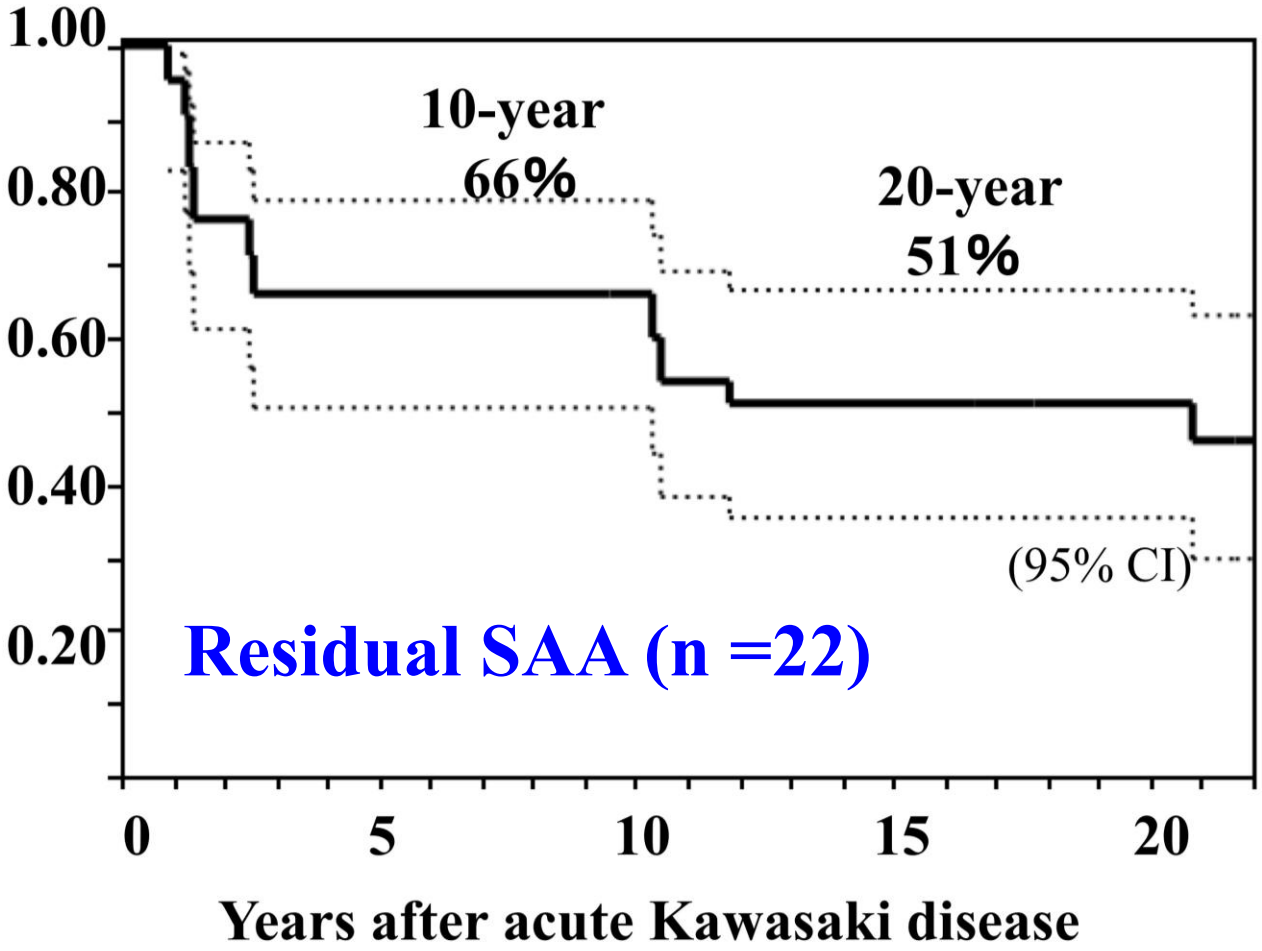
Replacement using **artificial vessels**



Outcome of SAA in 17 pts



Residual rate of SAA in 11 pts
(Brachial, common and iliac arteries)



total =42

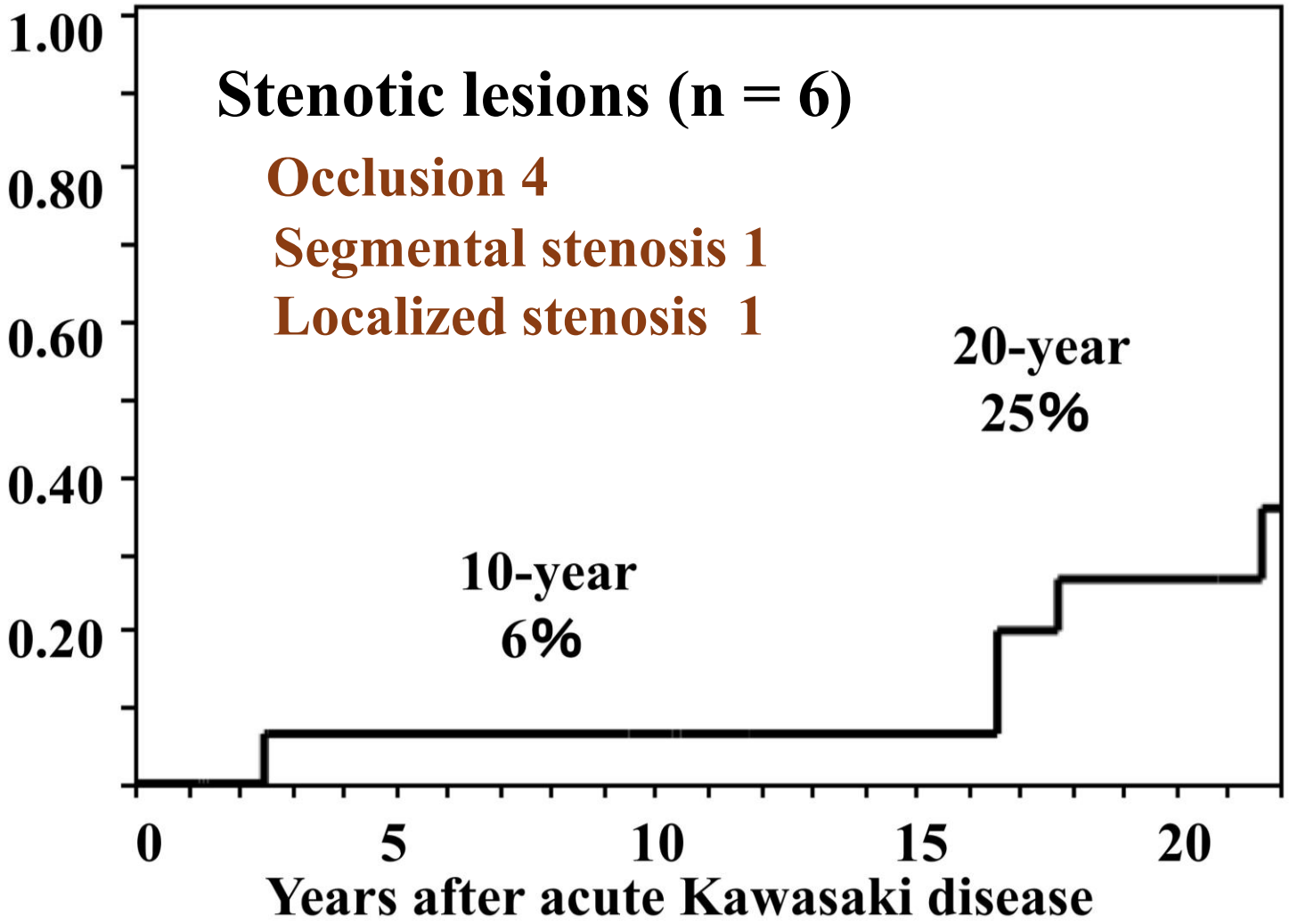
Residual SAA included persistent aneurysms and stenotic lesions.

Cut-off values of the initial diameter leading to residual SAA

	Diameter (mm)	AUC	p
Brachial (n=14)	6.8	0.96	0.0003
Common Iliac (n=16)	9.4	0.75	0.0339
Internal Iliac (n=12)	10.7	0.92	0.0035

Incidence of stenotic lesions in 11 pts

(Brachial, common and iliac arteries)



n =42

Summary-1

1. **All patients with SAA had had acute KD within 20 months with a median of 6 months.**

2. **All patients had at least one symmetric pair of aneurysms in bilateral peripheral arteries. Sixteen pts (80%) had multiple aneurysms.**

3. **The prevalence of SAA was high in the brachial, common and internal iliac arteries.**

Summary-2

4. The incidence of cardiac events was high in patients with SAA.

5. The larger aneurysms persist into the late period, and the acute phase diameter of SAA leading to late stenotic lesions was more than 10.0 mm.

Conclusions

SAA occurred symmetrically and were multiple in younger infants and those with severe acute vasculitis. The fate of SAA resembles that of coronary artery aneurysms, and depends on its acute phase diameter. The larger SAA can lead to stenotic lesions in the late period.