

Outcome of Treatment for Stanford Type A Acute Aortic Dissection in over 85 years old Patients ~Medical or Surgical ? ~

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Objective

Japanese Life expectancy

Highest country



Life expectancy

2015 WHO

Male		Female	
Country	Years	Country	Years
Highest		Highest	
Switzerland	81.3	Japan	86.8
Iceland	81.2	Singapore	86.1
Australia	80.9	Spain	85.5
Sweden	80.7	Republic of Korea	85.5
Israel	80.6	France	85.4
Japan	80.5	Switzerland	85.3
Italy	80.5	Australia	84.8

BUT.....

Many elderly people suffer disease

For example...

Acute Aortic Dissection(AAD)



Introduction

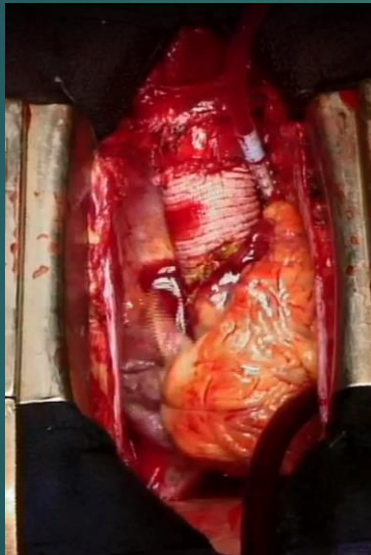
Stanford Type A AAD(TAAD)

patient age ≥ 85

Patient and/or Family
"Very Quickly" Choice



#Frailty
#Comorbidity
#Dementia
#Patient's will etc..



Surgical Treatment

or



Medical Treatment



Patients

Jan, 2010~Aug, 2019

TAAD patients : 380

Over 85 years old

(10.7%)

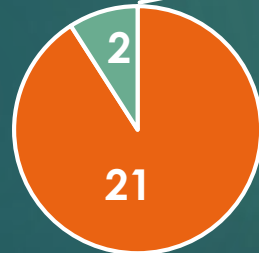
41 patients

Average age 87.0

Male:12 female:29

TAAD patients , age ≥ 85 (N=41)

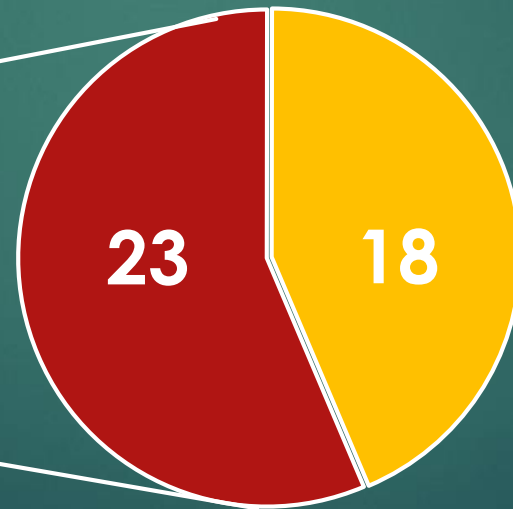
Operative Procedure



Asc Ao GR

Asc Ao GR + AVR

Medical treatment



Surgical Treatment

Medical Treatment

- Absolute bed rest
- Antihypertensive drugs
- Pain relieve drugs
- Pericardiocentesis (If tamponade)

Asc Ao GR: Ascending Aorta Graft Replacement
AVR: Aortic Valve Replacement

Patients ~Characteristics~

	Surgical group(N=23)	Medical group(N=18)	P value
Average age	86.4±1.3	87.8±3.3	<i>n.s.</i>
Sex	M:5 F:18	M:7 F:11	<i>n.s.</i>
Dissection type			
Double barrel	18	9	<i>n.s.</i>
Thrombosed	4	3	<i>n.s.</i>
ULP	1	6	<i>n.s.</i>
tamponade	6	3	<i>n.s.</i>
Pericardiocentesis	1	3	<i>n.s.</i>
Cardiac arrest	3	3	<i>n.s.</i>

ULP: Ulcer like projection

ROSC: Return of spontaneous circulation

✧ All cardiac arrest cases got ROSC.

Results ~Operation~

Operative strategy for TAAD (age \geq 85)

Graft replacement range : Entry Resection only

Arterial cannulation: Femoral Artery

Venous cannulation: SVC and IVC

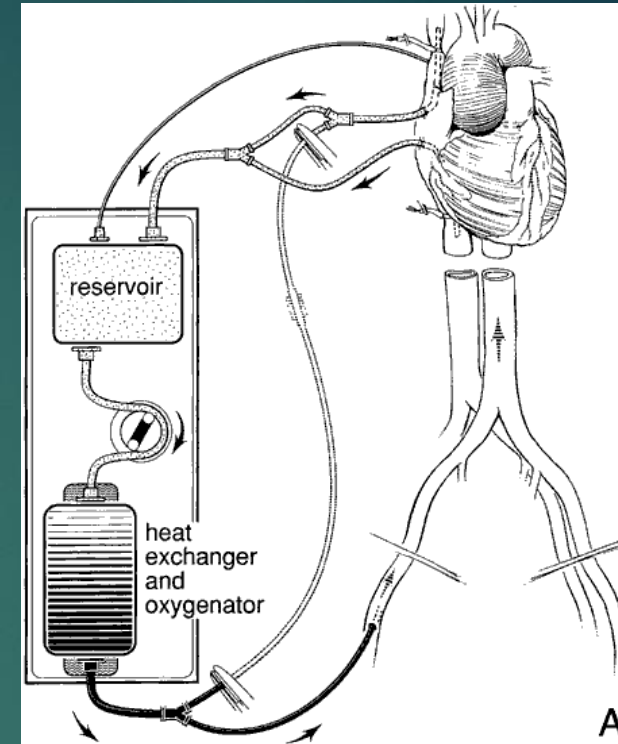
Cerebral protection: Retrograde cerebral perfusion

Body temperature: Moderate hypothermia (25°C)

N=23

Average operative time	312\pm65 (217—500) min
Average CPB time	171\pm22 (119—215) min
Average circulatory arrest time	56\pm23min (31—117)min

1 patient couldn't be weaned from CPB due to LOS
⇒PCPS introduced



http://tele.med.ru/book/cardiac_anesthesia/text/gr/gr034.htm

SVC: Superior Vena Cava
IVC: Inferior Vena Cava
CPB: Cardiopulmonary Bypass
PCPS: Percutaneous Cardiopulmonary Support system
LOS: Low Output Syndrome

Results ~Outcome of perioperative period~

Surgical Treatment Group N=23

Hospital death	4 cases(17%)	Cause of death <ul style="list-style-type: none"> • LOS (POD1) • Sepsis (POD9) • GI bleeding (POD22) • Arrhythmia (Vf) (POD30)
30 days mortality	4 cases(17%)	Same as above
Major complication	5 cases(22%)	<ul style="list-style-type: none"> • Cerebral hemorrhage • Hypoxic ischemic encephalopathy • Paraplegia • Acute cholecystitis • Cerebral infarction

Discharged without any complications: 5cases (22%)

Hospital transfer : 14 cases(61%)

GI: Gastro intestinal
Vf: Ventricular fibrillation
POD: Post operative day

Average hospital stay 36.2days

Results ~Outcome of medical treatment~

Medical treatment group N=18

Hospital death	5cases(28%)	All cases AAD related <ul style="list-style-type: none">• cerebral ischemia: 1cases• Re-dissection⇒ tamponade: 3case• Respiratory failure: 1case
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Discharged without any complications: 4cases (22%)

Hospital transfer : 9 cases(50%)

Average hospital stay 20.0days

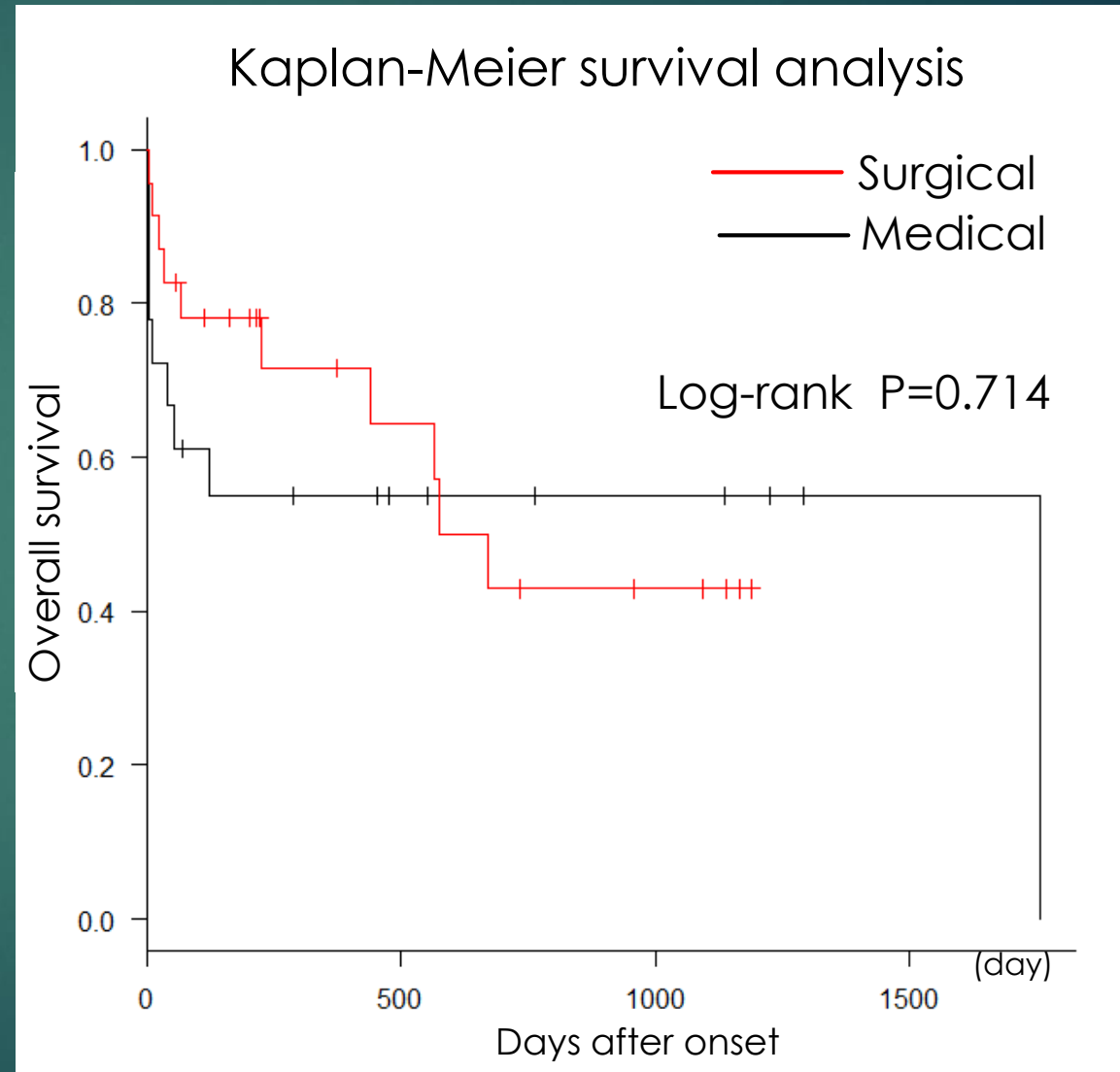
Results ~Comparison of short-term outcome~

Average follow up
450 days (1-1758days)
Follow up rate:95.1% (39/41 cases)

1-year survival rate

Surgical: **71.5%**

Medical: **55.0%**



Discussion ~Surgical treatment~

Surgical mortality of TAAD

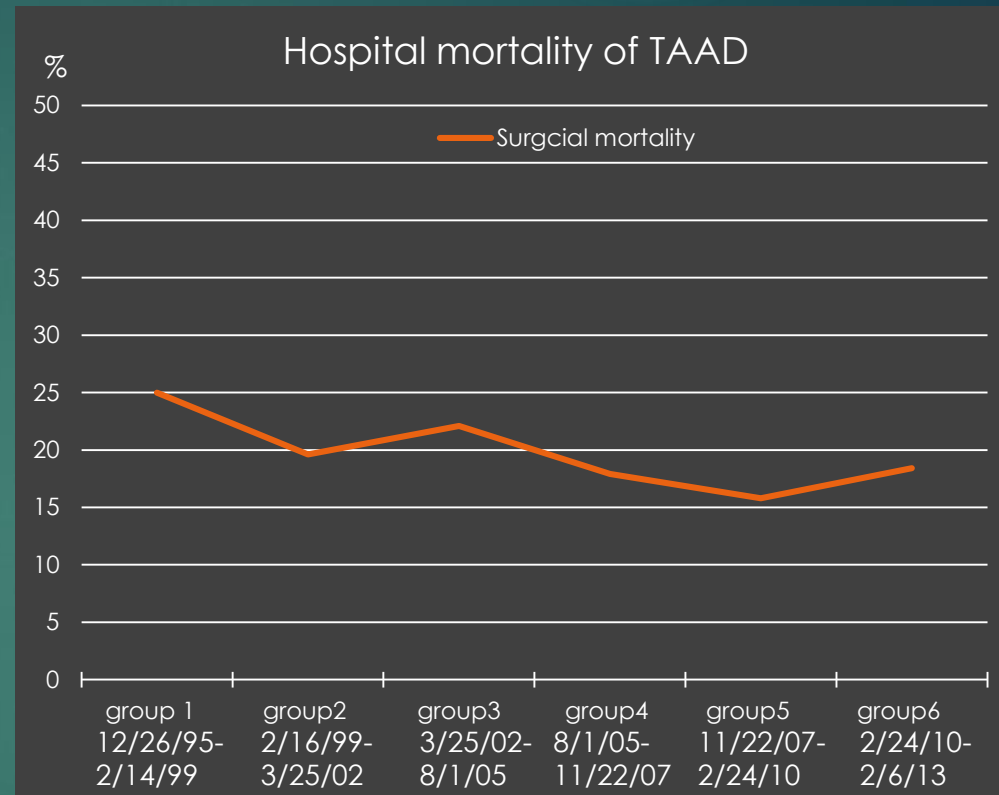


Improving!

But...

In our study
Hospital mortality

17%



Surgical treatment for high age patients is high risk.

Pape LA ,et al.
J Am Coll Cardiol. 2015 Jul 28;66(4):350-8.
doi: 10.1016/j.jacc.2015.05.029.

Only 5 patients were recovered to the original ADL in our study .

**High age patients has dropped the ADL easily
and
Recovering the ADL is difficult**

ADL: Activity of daily livings

Discussion ~Medical treatment~

Basically, TAAD needs emergency operation

Because....

Mortality rate after onset: 1-2%/hour

Mortality of medical treatment for TAAD: 58%



In our study, hospital mortality: 28%

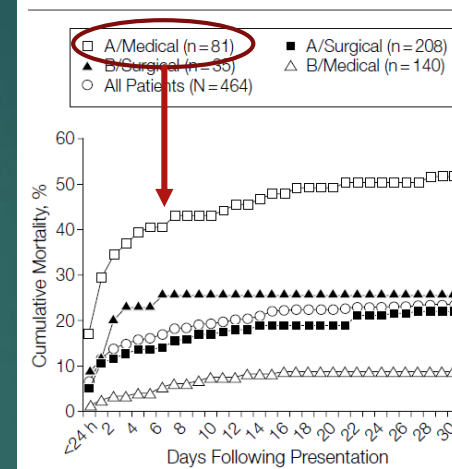
Possibility

Progress in medical treatment

Antihypertensive drugs

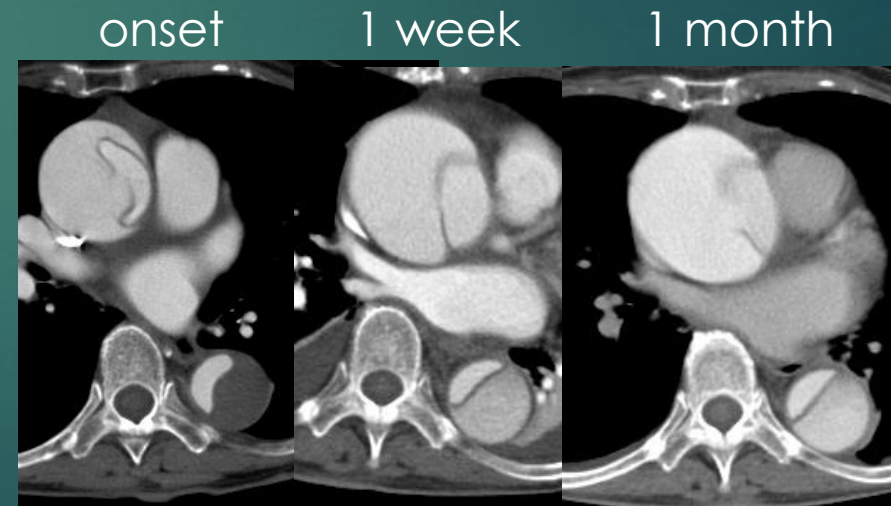
✓ B blocker (Landiolol ,Bisoprolol...)

Figure. Thirty-Day Mortality by Dissection Type and Management



Peter G. Hagan, et al.

JAMA. 2000;283(7):897-903. doi:10.1001/jama.283.7.897



86 y.o. Female (Survive 4.8 year)

Discussion ~Surgical vs Medical~

Surgical treatment reduce early mortality

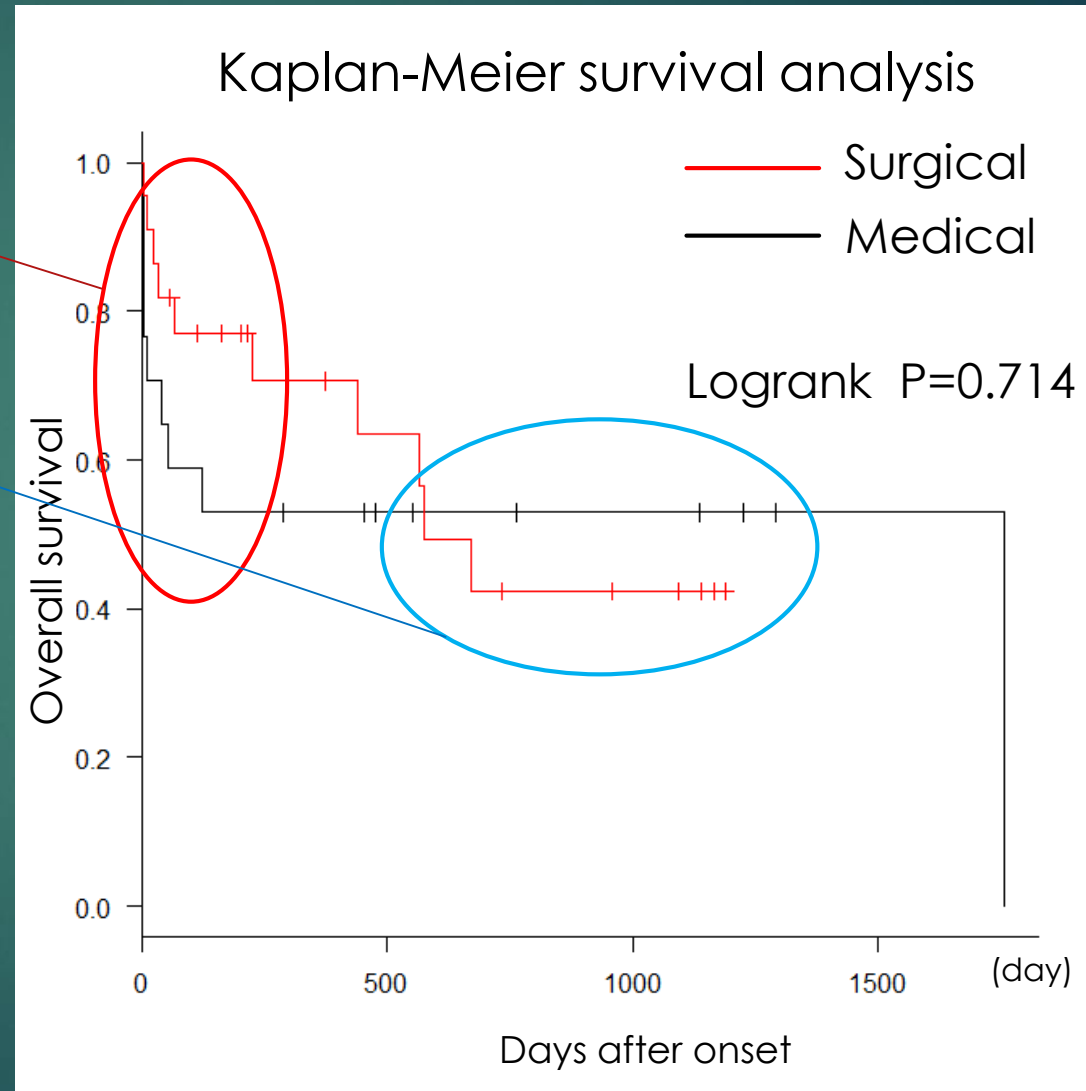
About 2 years....

No difference, Plateau

✓ Future Prospect

Risk factor of the early death with medical treatment

CT? ADL? Comorbidity?



Conclusion

- ✓ Surgical treatment for high age TAAD patients is high risk.
- ✓ In high age TAAD patients, Surgical treatment is better than medical treatment at point of acute survival.
But almost surgical treatment reduce patient's ADL.
- ✓ Considering systemic condition, comorbidity and so on, we should select treatment options more carefully.