第7回 大動脈解離シンポジウム
2019年3月16日（土） 13:00～18:00
パシフィコ横浜アネックスホール

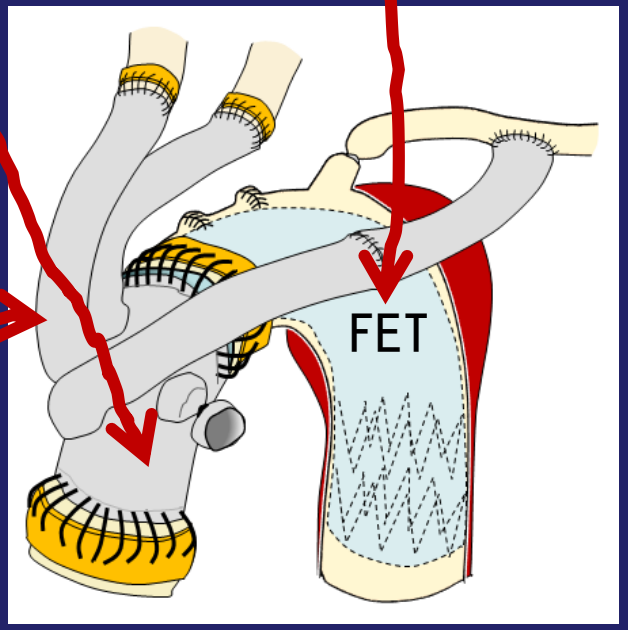
中枢側の術式選択 ― BioGlue、Bentall、自己弁温存 ―

牛心膜短冊およびBioGlue®を用いた中枢側大動脈形成

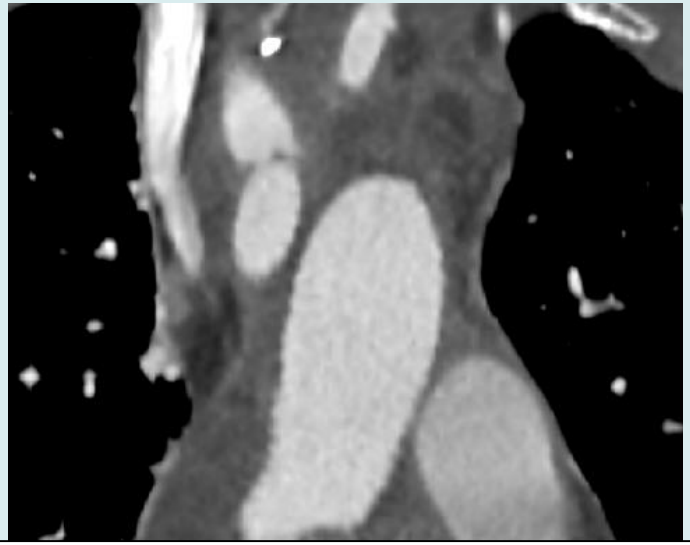
秋田大学医学部 心臓血管外科学講座
山本浩史

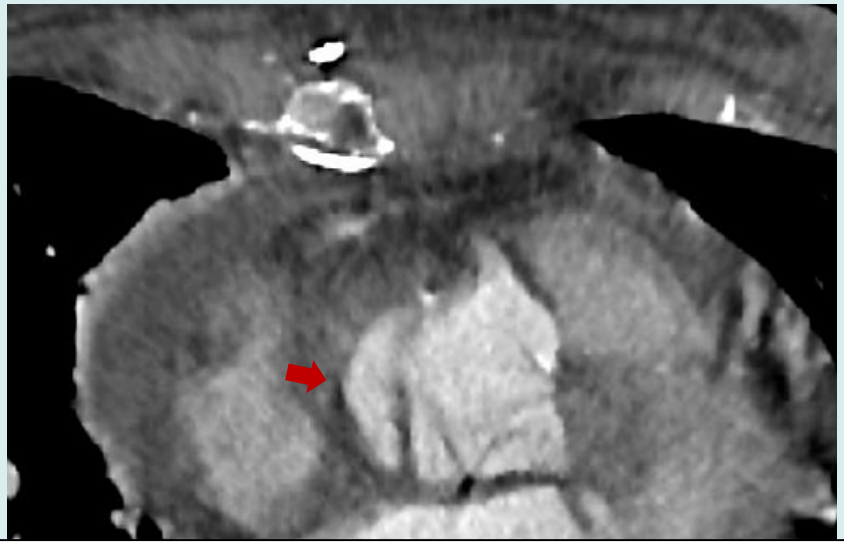
“Zone-0 Arch Repair” Strategy

- FET deployment (Z-0 to descending aorta)
- Ascending aortic replacement
- Arch vessel reconstruction
- Proximal repair



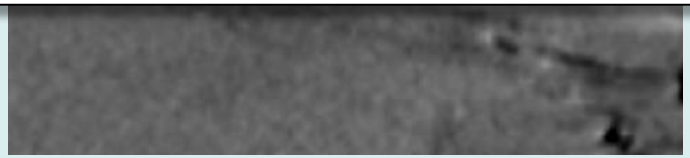
Residual False Lumen (FL)

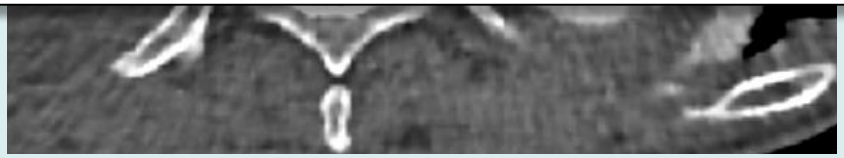




Potential Risks

Residual FL ➡ Aneurysm? ➡ Rupture?





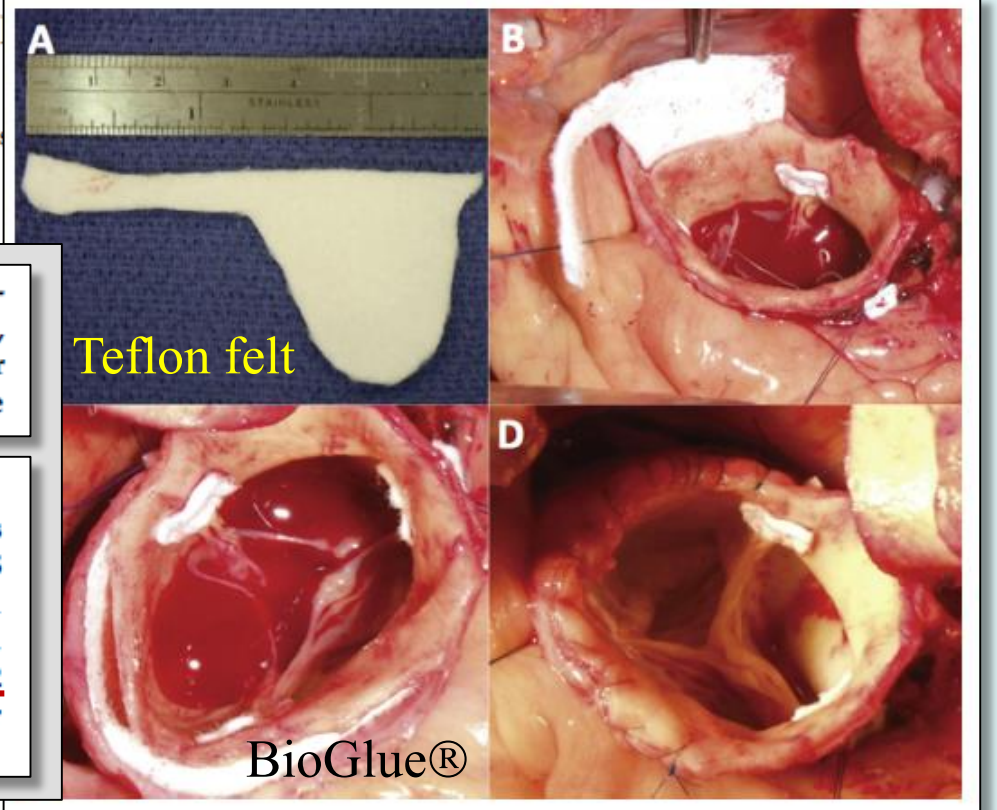
Neomedia

Long-Term Results of Neomedia Sinus Valsalva Repair in 489 Patients With Type A Aortic Dissection

Bartosz Rylski, MD, Joseph E. Bavaria, MD, Rita K. Milewski, MD, PhD, Prashanth Vallabhajosyula, MD, William [illegible], Alberto Pochettino, MD, Wilson Y. Szeto,

Hospital of the University of Pennsylvania, Philadelphia, Penn[illegible]

Results. In-hospital mortality was 11% (56/489). Survival was 69% ± 2%, 50% ± 3%, and 36% ± 5% at 5, 10, and 15 years, respectively. Freedom from moderate or severe aortic regurgitation was not influenced by the aortic regurgitation grade at the initial operation (p = 0.131). Freedom from proximal aortic reoperation was 96% ± 1%, 92% ± 2%, and 89% ± 4% at 5, 10, and 15 years, respectively. Seventeen patients (3%) required proximal reoperation: 10 for aortic regurgitation, including 3 with concomitant pseudoaneurysm and 2 with root aneurysm; 6 for pseudoaneurysm; and 1 for graft infection.



Rylski B, et al. Ann Thorac Surg 2014; 98:582-9

Sinus Replacement

Valve-Sparing Aortic Root Repair With Patch Technique

Paul P.

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Acute aortic dissection involving the root: operative and long-term outcome after curative proximal repair†

Paul P. Urbanski*, Aristidis Lenos, Vadim Irimie, Petros Bougioukakis, Michael Zacher and Anno Diegeler

Cardiovascular Clinic Bad Neustadt, Bad Neustadt, Germany

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Received 30 July 2015; received in revised form 27 November 2015; accepted 4 December 2015

Abstract

OBJECTIVES: The aim of the study was to evaluate operative and long-term results after surgery of acute aortic dissection involving the root, in which the proximal repair consisted of curative resection of all dissected aortic sinuses and was performed using either valve-sparing root repair or complete root replacement with a valve conduit.

METHODS: Between August 2002 and March 2013 162 consecutive patients (mean age 63 ± 14 years) underwent surgery for acute type A aortic dissection. Eighty-six patients with an involvement of the aortic root underwent curative surgery of the proximal aorta consisting of valve-sparing root repair ($n = 54$, 62.8%) or complete valve and root replacement using composite valve grafts ($n = 32$, 37.2%). In patients with root repair, all dissected aortic walls were resected and root remodelling using the single patch technique ($n = 53$) or root repair with valve reimplantation ($n = 1$) was performed without the use of any glue. All perioperative data were collected prospectively and retrospective statistical examination was performed using univariate and multivariate analyses.

RESULTS: The mean follow-up was 5.2 ± 3.5 years for all patients (range 0–12 years) and 6.1 ± 3.3 years for survivors. The 30-day mortality rate was 5.8% (5 patients), being considerably lower in the repair sub-cohort (1.9 vs 12.5%). The estimated survival rate at 5 and 10 years was 80.0 ± 4.5 and 69.1 ± 6.7%, respectively. No patient required reoperation on the proximal aorta and/or aortic valve during the follow-up time and there were only two valve-related events (both embolic, one in each group). Among those patients with repaired valves, the last echocardiography available showed no insufficiency in 40 and an irrelevant insufficiency (1+) in 14.

Urbanski PP, et al. Interact CardioVasc Thorac Surg 2016;22:620-6

Partial Remodeling

Interactive CardioVascular and Thoracic Surgery 8 (2009) 306-309

www.icvts.org

Work in progress report - Aortic and aneurysmal

Modified partial aortic root remodeling in acute type A aortic dissection

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Received 7 August 2008; received in revised form 21 November 2008; accepted 25 November 2008

Abstract

Emergen
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We retros
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© 2009 Pu

Keywords:

Dacron patch

Fig. 1. U-shaped Dacron patch is fixed to annulus with several mattress sutures.

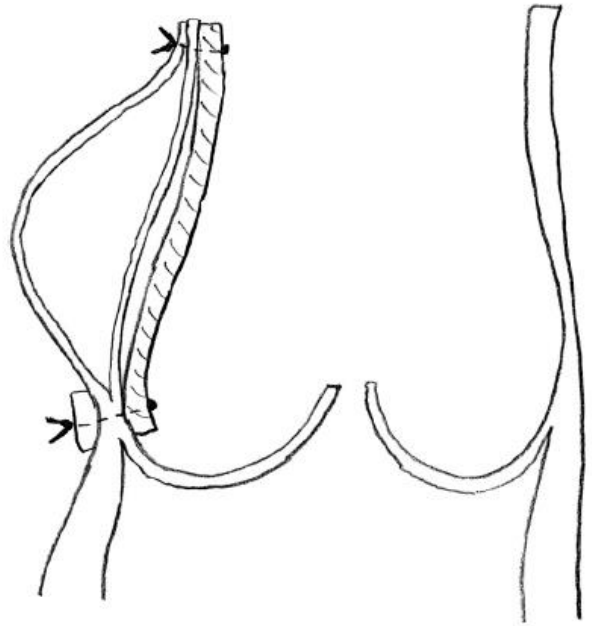

Fig. 2. Dacron patch serves as internal support within diseased sinus.

Komiya T, et al. Intact Cardiovasc Thorac Surg 2009; 8:306-9

Felt Sandwich

Long-term results of modified sandwich repair of aortic root in 151 patients with acute type A aortic dissection

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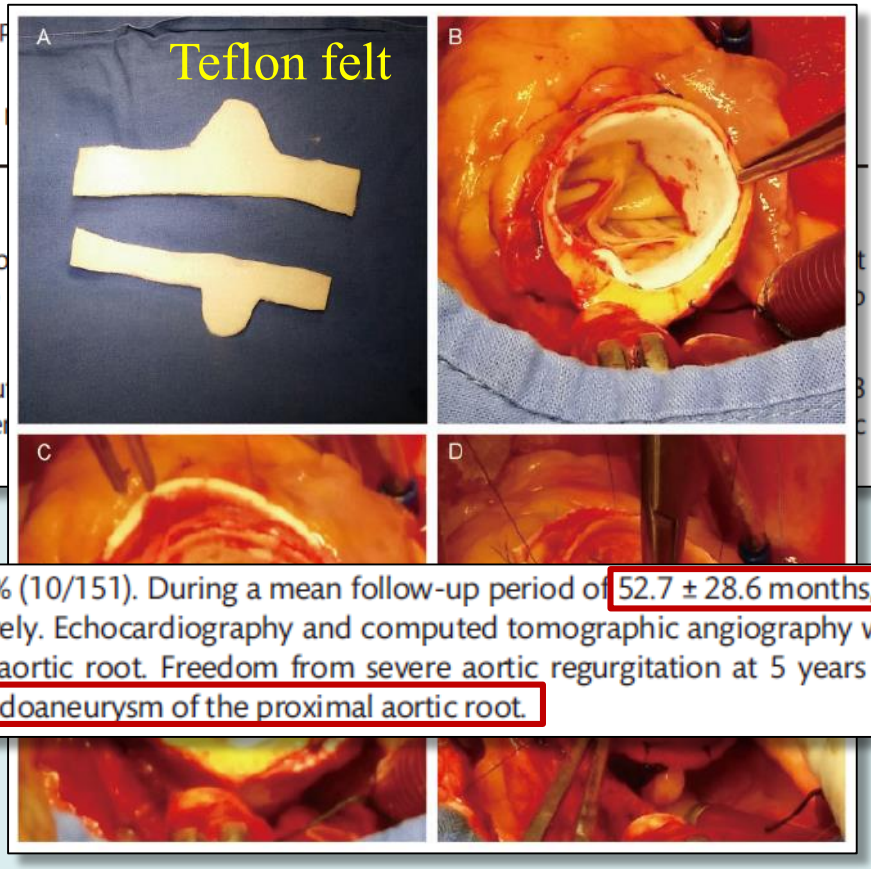
Received 4 May 2016; received in revised form 7 November 2016; accepted 10

Abstract

OBJECTIVES: Acute type A aortic dissection frequently induces ao
dissection remains a challenge. The objective of this study was to
improve patient prognosis.

METHODS: We performed a retrospective review of 791 consecu
and July 2015. Among these patients, 151 were selected (72% me
root dissection.



RESULTS: The in-hospital mortality rate of the 151 patients was 6.6% (10/151). During a mean follow-up period of 52.7 ± 28.6 months, the survival rate was 100, 89.1 and 69.7% at 1, 5 and 10 years, respectively. Echocardiography and computed tomographic angiography were performed every year to monitor the pathological change in the aortic root. Freedom from severe aortic regurgitation at 5 years was 100% No patients required reintervention due to dissection or pseudoaneurysm of the proximal aortic root.

Tang Y, et al. Intact Cardiovasc Thorac Surg 2017;25:109-13

Felt Sandwich

Art of Operative Techniques

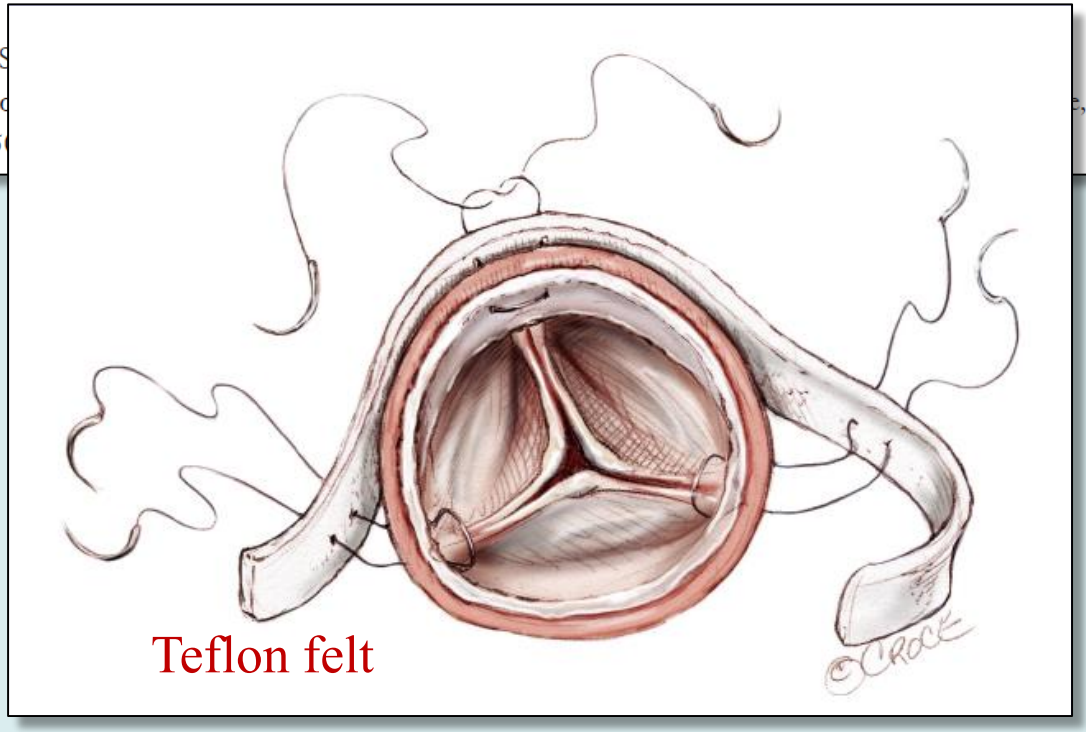
Surgical techniques of total arch replacement using selective antegrade cerebral perfusion

Yutaka Okita, Kenji Okada, Atsushi Omura, Hiroya Kano, Hitoshi Minami, Takeshi Inoue, Toshihito Sakamoto, Shunsuke Miyahara, Tomonori Shirasaka, Katsuhiro Yamanaka, Taimi Ohara, Yoshikatsu Nomura, Hidekazu Nakai

Division of Cardiovascular Surgery, Department of S

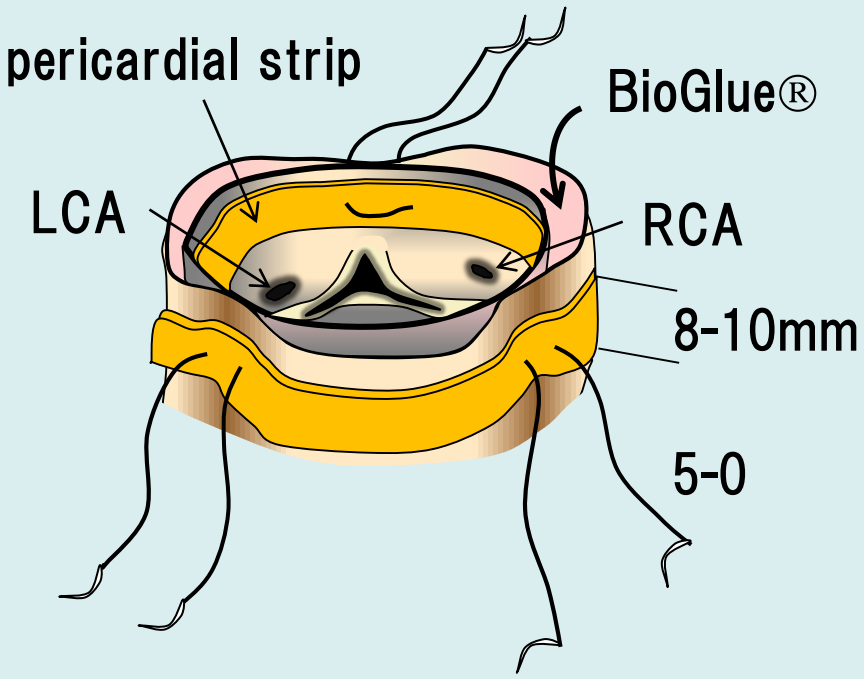
Corresponding to: Yutaka Okita, MD. Department o

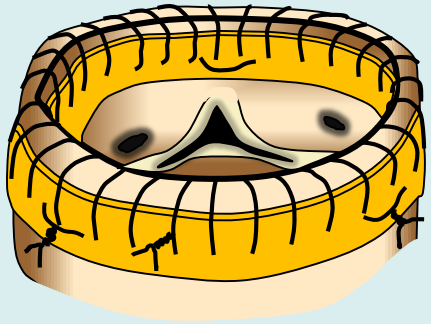
7-5-2, Kusunoki-Cho, Chuo-Ku, Kobe, Hyogo, 65

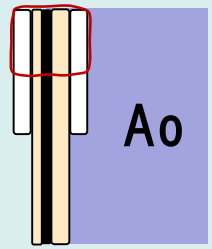


Okita Y, et al. Ann Cardiothorac Surg 2013;2:222-8

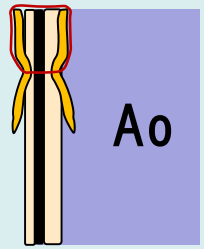
Pericardium Sandwich





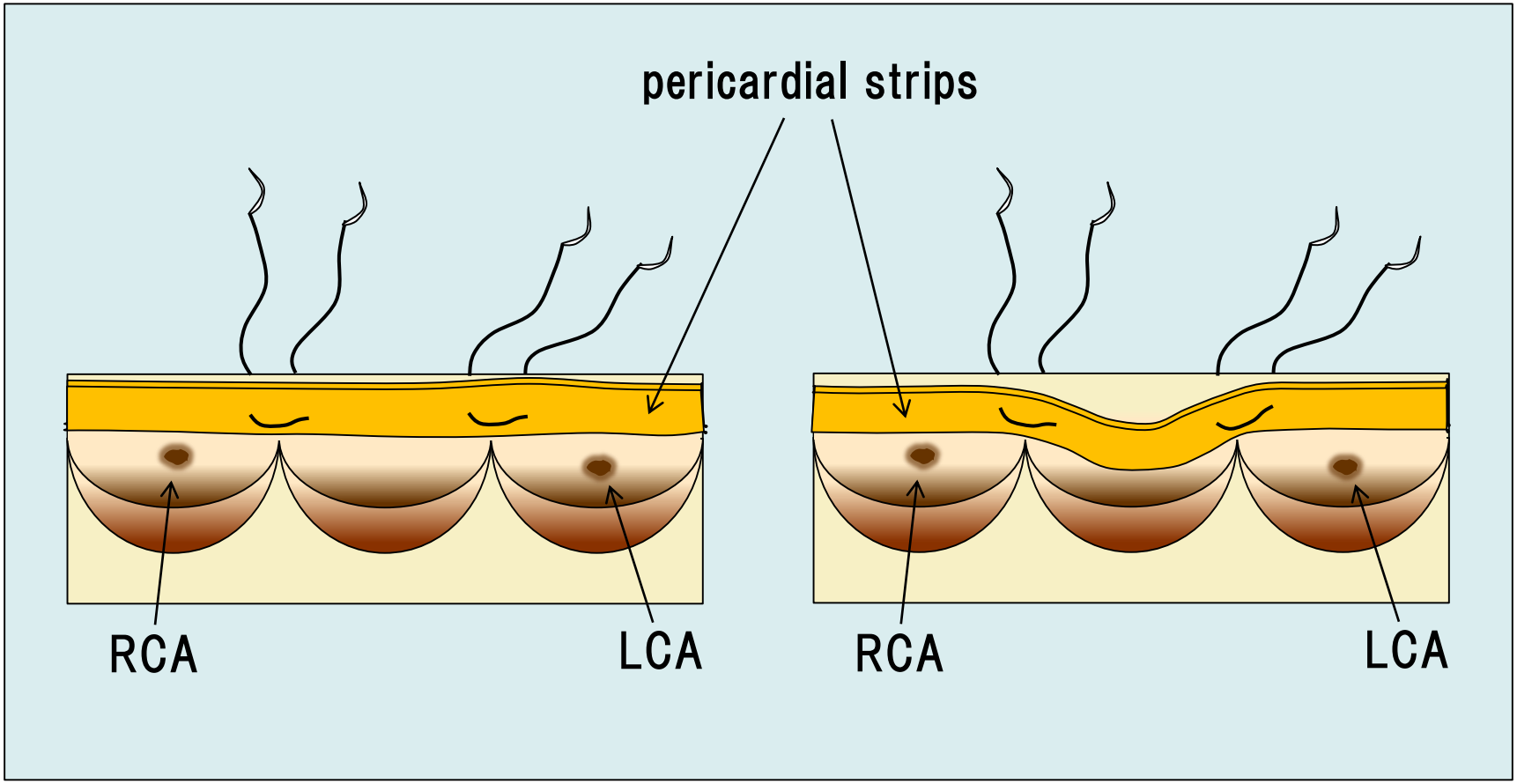


Teflon felt

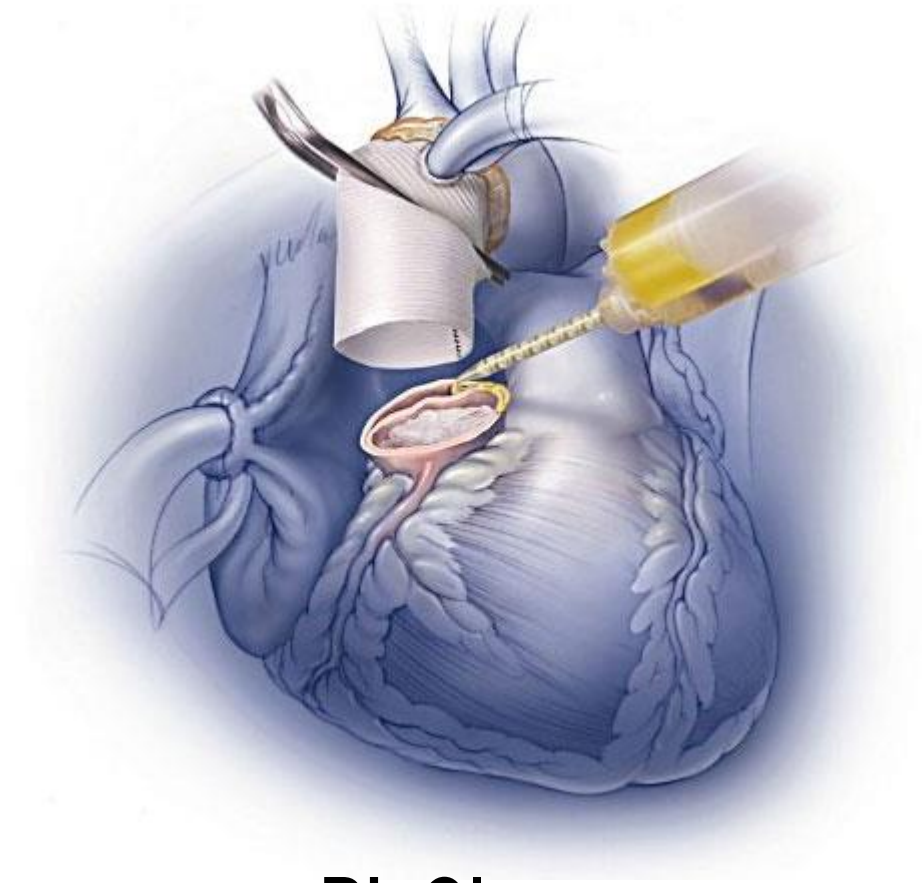


pericardium

Inlaying into the Aorta



Materials



BioGlue®

CryoLife, Inc., Kennesaw, GA
(https://www.medgadget.com/2006/01/the_bioglue.html)

Bovine Pericardial Patch®

Edwards Lifesciences, Irvine, CA

Borst Fixation Clamp

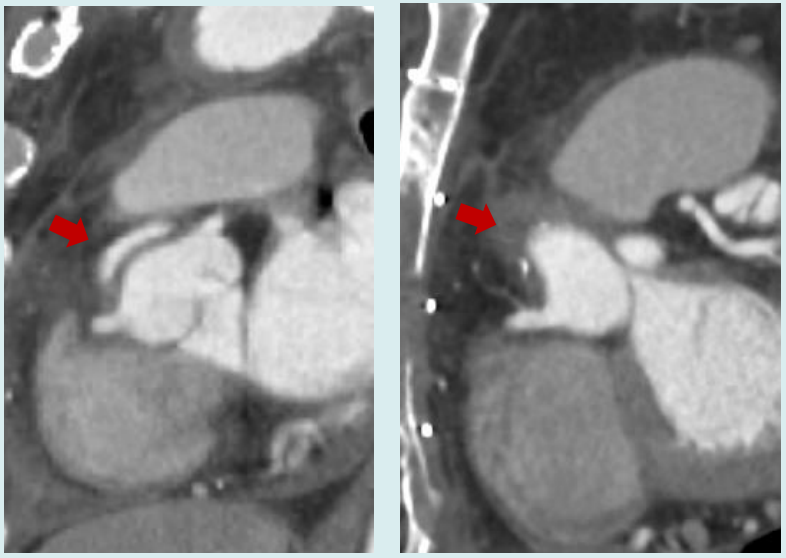
AUSTOS, Irvine, CA

Results

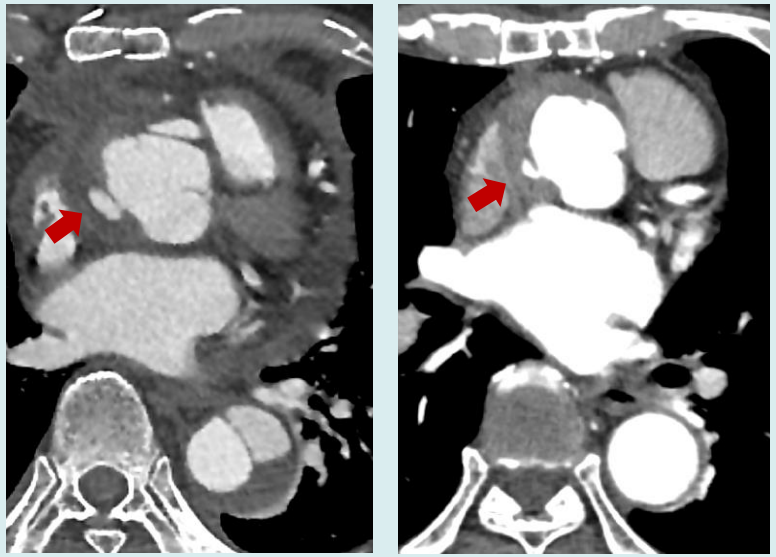
	Residual FL		Aneurysm of residual FL	Rupture of anastomosis
Single* N=34	4 (11.8%)	P=0.608	0	0
Sandwich** N=91	14 (15.4%)		0	1 (1.1%)
Total N=125	18 (14.4%)		0	1 (0.8%)

* Single (Oct, 2014 – Dec, 2015) Age 64.4±15.0, 30～83yo, M/F=16/18

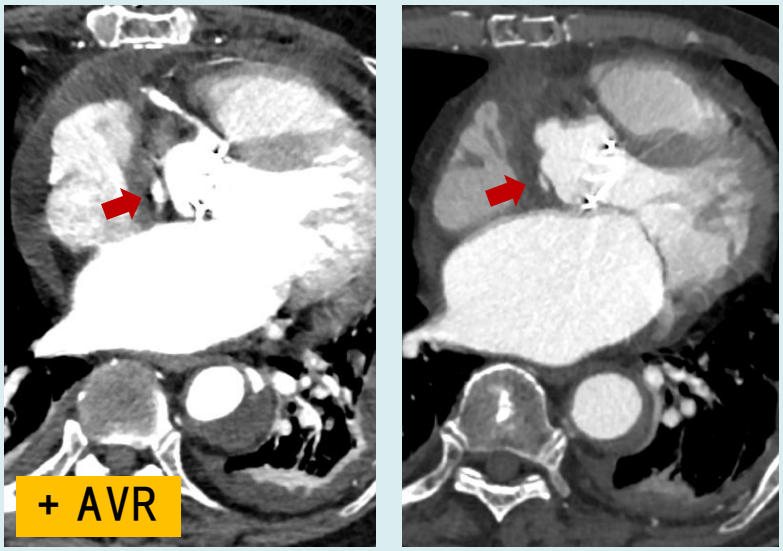
** Sandwich (Dec, 2015 – Feb, 2019) Age 66.5±11.0, 40～88yo, M/F=44/47
(including 4 cases with outside Teflon felt strip)



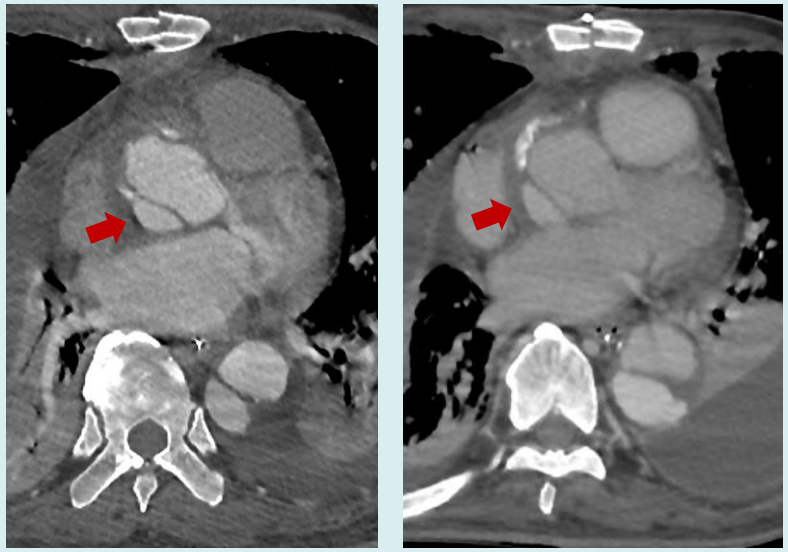
POD21 POD118



POD21 POD328

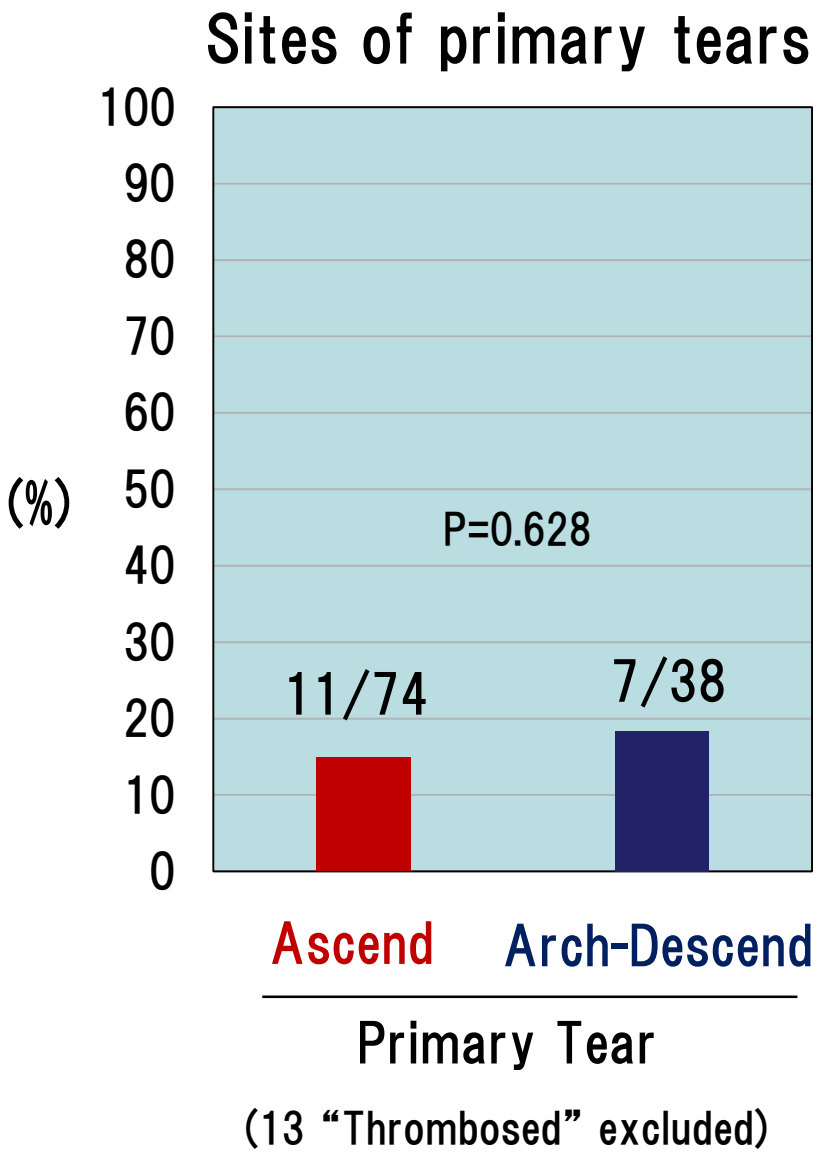


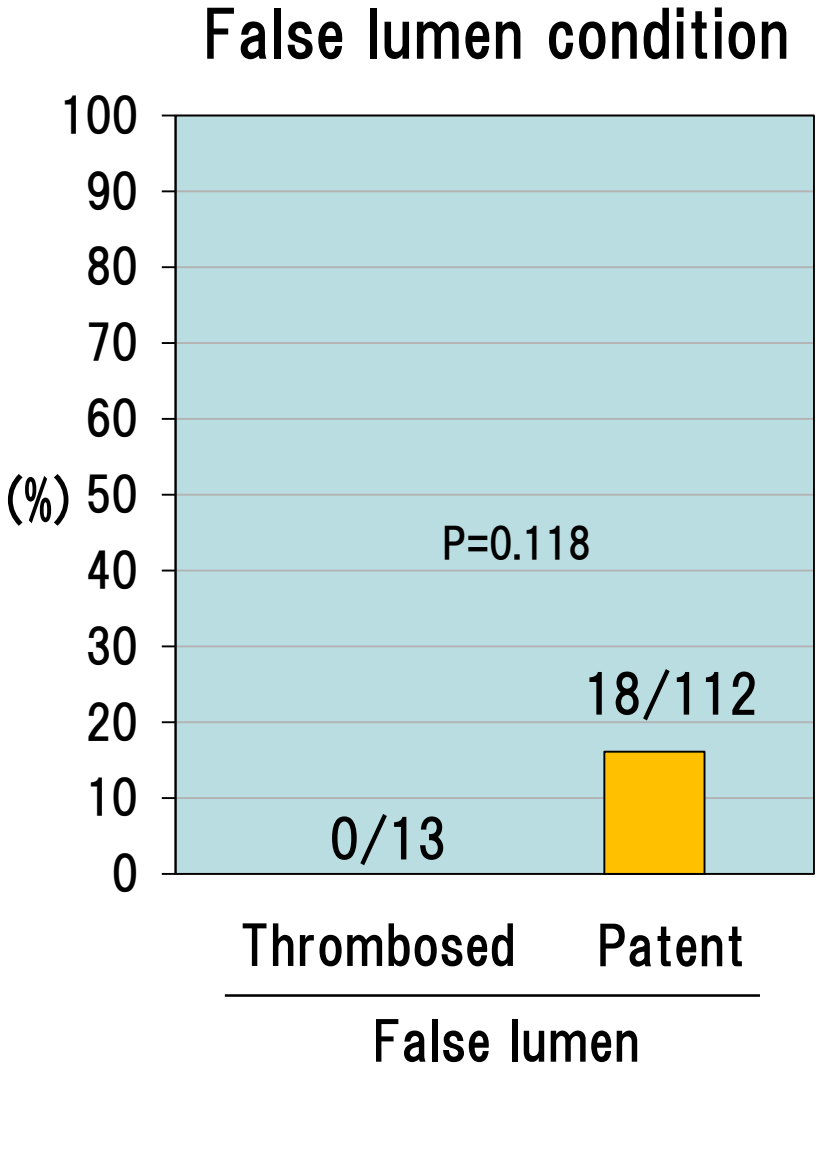
POD17 POD74



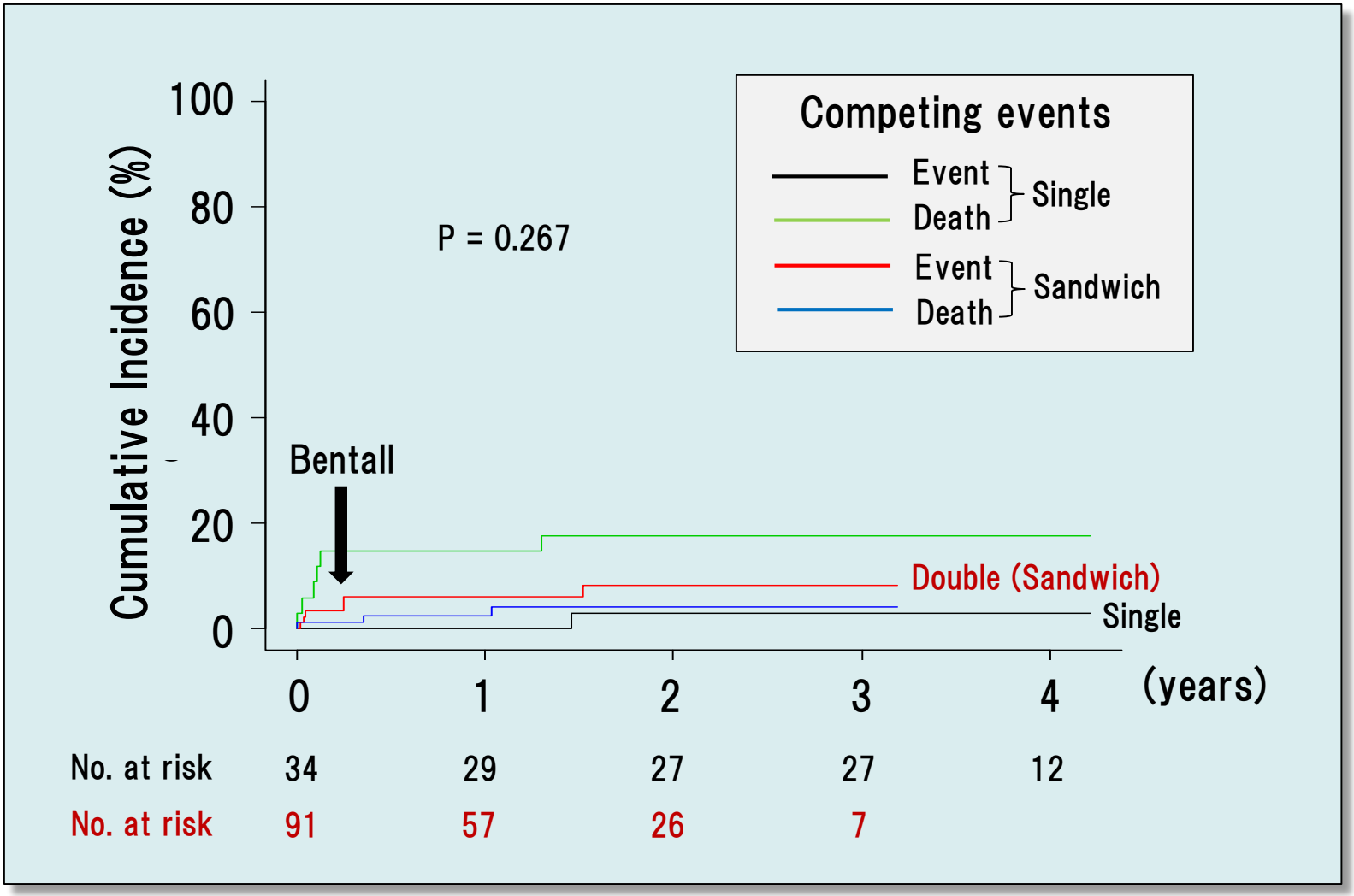
POD30 POD108

Residual FL


Sites of primary tears
100
90
80
70
60
50
40
30
20
10
0
(%)
P=0.628
11/74
7/38
Ascend
Arch-Descend
Primary Tear
(13 “Thrombosed” excluded)


False lumen condition
100
90
80
70
60
50
40
30
20
10
0
(%)
P=0.118
0/13
18/112
Thrombosed
Patent
False lumen

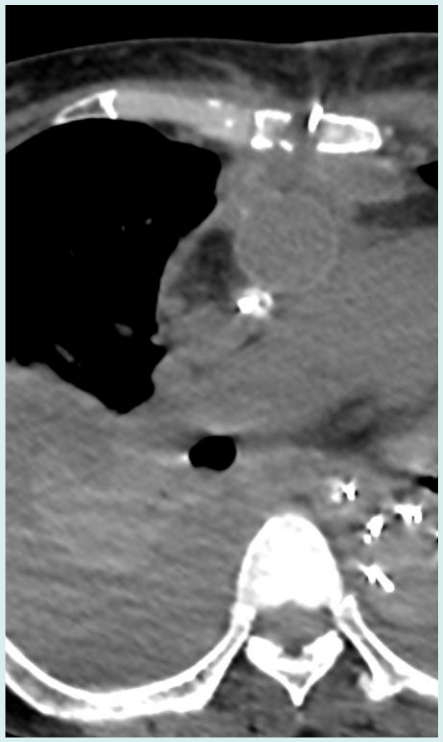
Reintervention



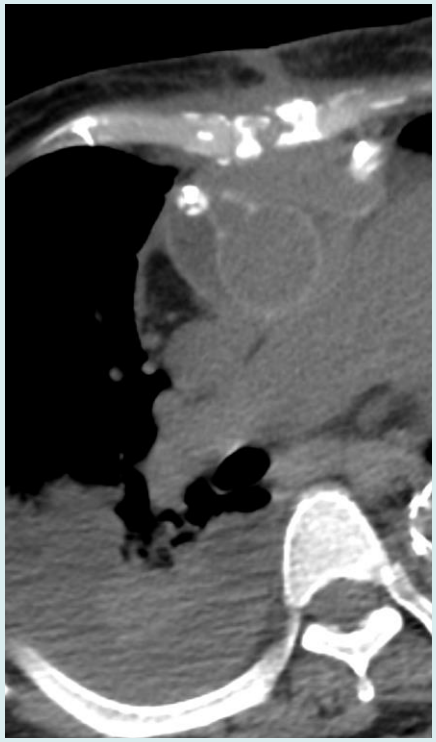
TEVAR	7 (5.6%)
Bentall	1 (0.8%)

Rupture of Proximal Anastomosis

58yo Woman with postop mediastinitis



POD11



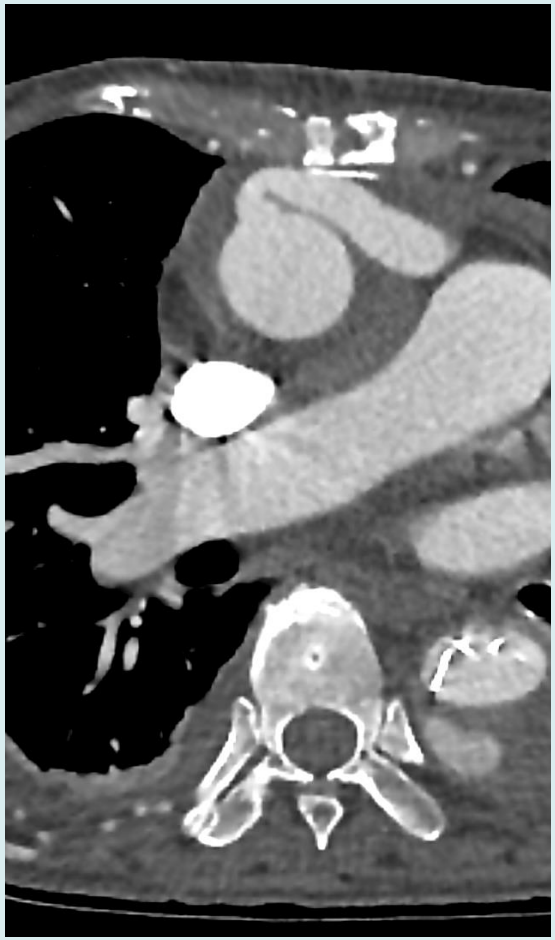
POD50

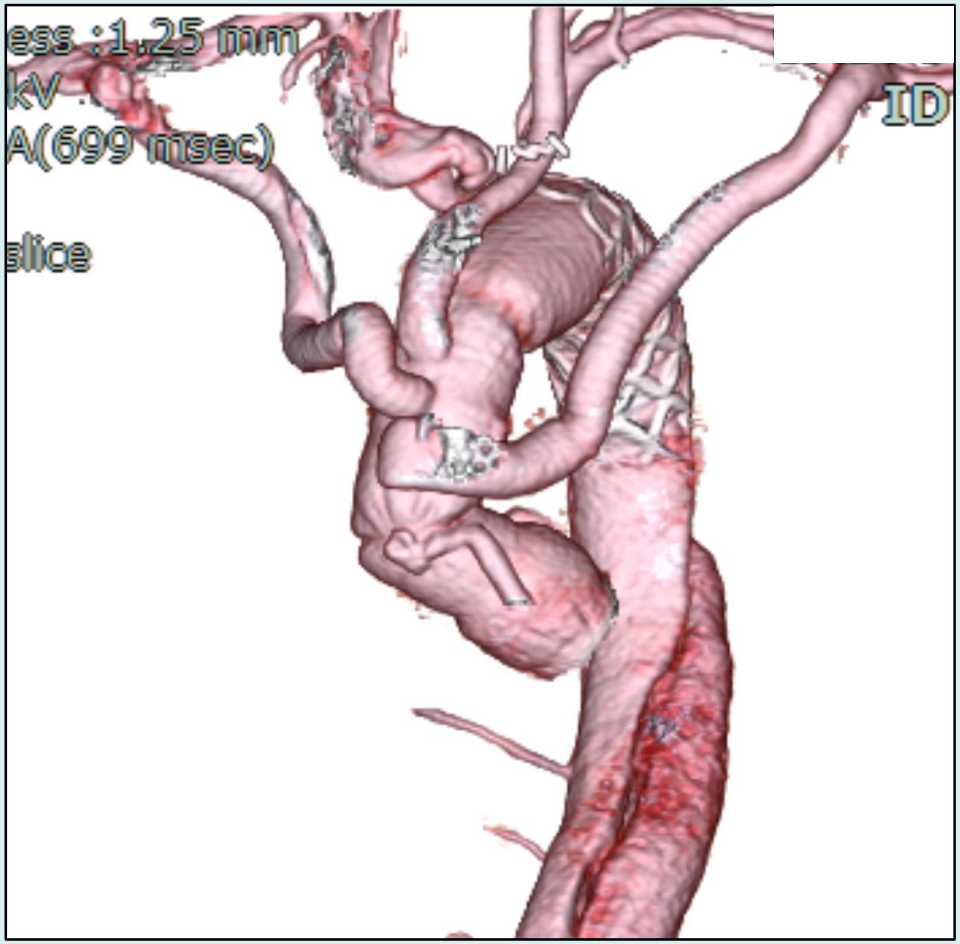
POD74

POD89

Rupture of Proximal Anastomosis

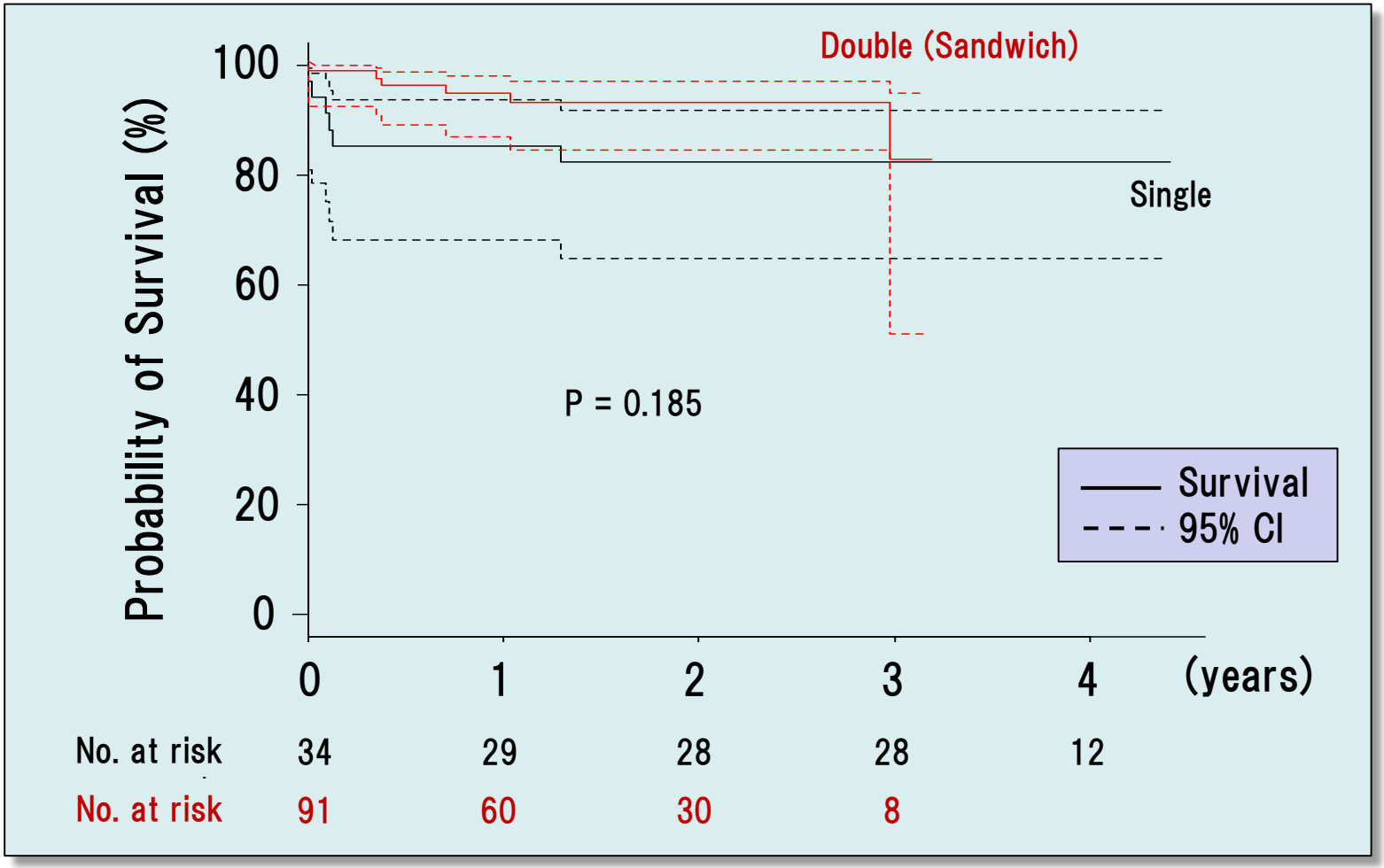
Reintervention (Bentall operation)





30 days after reintervention

Overall Survival



Early mortality	30-day	3 (2.4%)
	In-hospital	7 (5.6%)
Late mortality		6 (4.8%)

Conclusions

- Same results between "*Single*" and "*Sandwich*"
- Tendency of thrombosis in the residual FL
- No aneurysm or rupture of the residual FL
- One rupture case of proximal anastomosis
- Limitations:
  - Retrospective, non-randomized
  - No comparison with Teflon felt sandwich