



Hakodate,Hokkaido,Japan

Hakodate Goryoukaku Hospital

Impact of Aorta No-touch MICS CABG For Older Patients

Takakimi Mizuno, Masato Yonemori, Kazutoshi Tachibana
Department of Cardiovascular Surgery, Hakodate Goryoukaku Hospital, Hokkaido, Japan

Contact Information

Takakimi Mizuno
mizunom12102tm@sap
med.ac.jp

BACKGROUND: Coronary Artery Bypass Grafting (CABG) plays an important role in the treatment of coronary artery diseases. However elderly patients with coronary artery diseases are at increased risk for perioperative complications and long hospital stays that affect postoperative ADL. **Aorta no-touch total arterial Minimally Invasive Cardiac Surgery CABG (MICS CABG)** may mitigate these problems. This study was performed to show the perioperative outcomes of patients underwent aorta no-touch total arterial MICS CABG and that of sternotomy CABG .

METHODS: The consecutive **100 patients** underwent Isolated CABG excluded acute coronary syndrome, **29 patients underwent aorta no-touch total arterial MICS CABG (MICS)** and **71 patients underwent sternotomy CABG (Sternotomy)** were reviewed. We divided them into three groups according to age: young (<65 years old), early elderly (65-74 years old) and late elderly (≥ 75 years old). We assessed perioperative outcomes by age-groups .

	MICS	Sternotomy	P value
n	29	71	
Age	71.0 $\pm$ 11.3	68.2 $\pm$ 9.40	0.21
Elderly (%)	21 (72.4%)	50 (70.4%)	0.84
Men(%)	26(89.7%)	59(83.1%)	0.41
DM(%)	14(48.3%)	37(52.1%)	0.73
CRF(%)	14(48.3%)	37(52.1%)	0.73
HD(%)	0	21(29.6%)	<0.001
EF(%)	62.8 $\pm$ 10.3	59.3 $\pm$ 13.8	0.11
Smoking(%)	20(69.0%)	47(66.2%)	0.79

Table 1

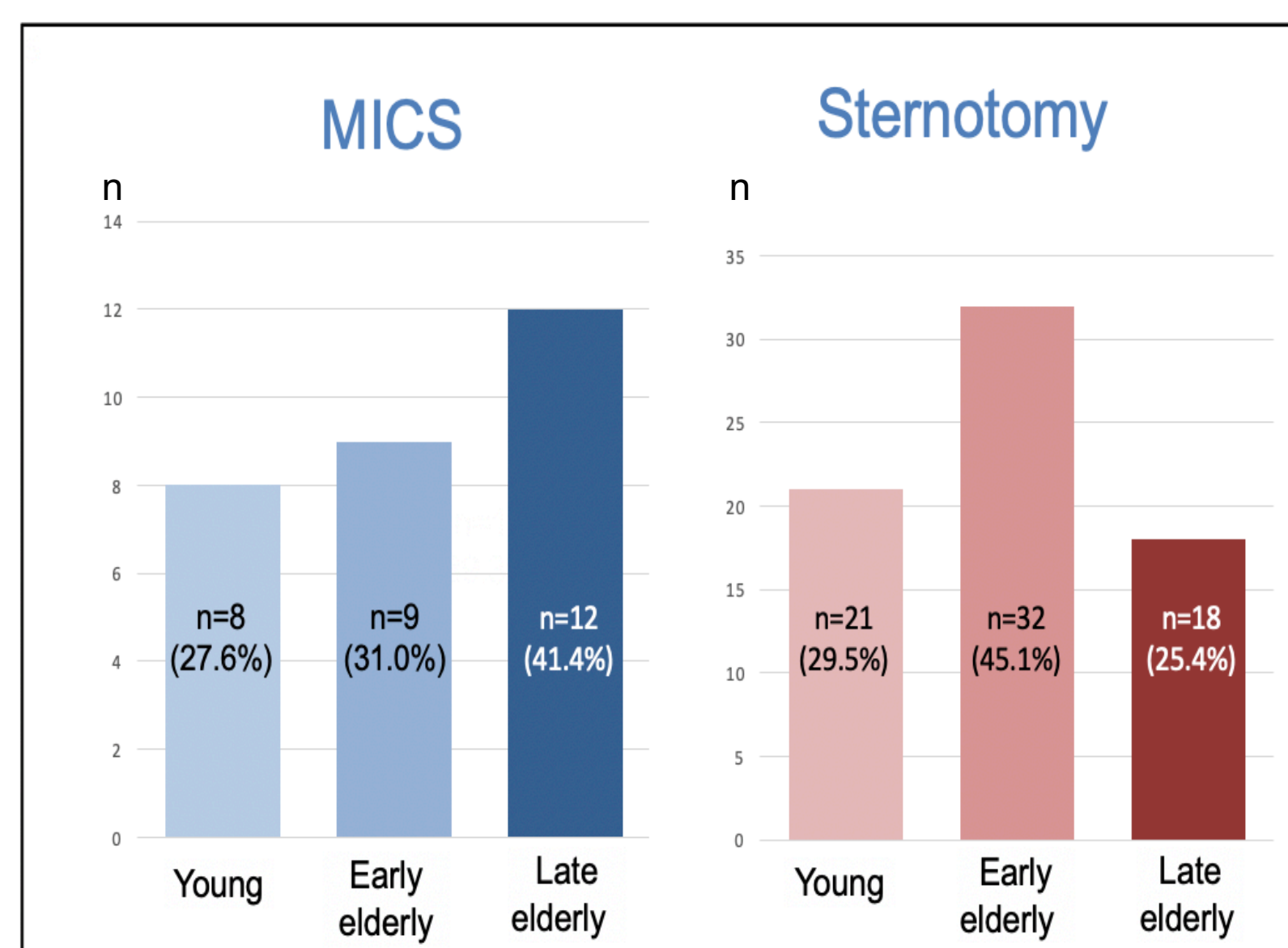


Figure 1

RESULTS: **Table 1** shows the preoperative characteristics of the 100 patients included in this study. We could not find significant difference in age, rate of elderly patients(>65 years old), sex, prevalence of DM or CRF, EF, or rate of smoking between two groups. There is a statistical significance in rate of HD between the two. The **proportion of each age group (young : early elderly : late elderly)** was **8 (27.6%) : 9 (31.0%) : 12 (41.4%)** in **MICS**, **21(29.5%) , 32 (45.1%) , 18 (25.4%)** in **Sternotomy (Figure1)**. In both groups, the graft patency rate was 100% and the mortality was 0%. **Figure 2** shows **the average hospital stays** of the two groups in each age group. **8.4 days: 9.3 days: 16.2 days** in **MICS** (p<0.05) and **17.3 days: 15.6 days: 20.5 days** in **Sternotomy** (p=0.06). **Table 2** shows the **preoperative characteristics** of patients **over 65 years old**. There is no significant difference except for the rate of HD. **Table 3** shows **perioperative outcomes** of patients **over 65 years old**. The number of anastomosis is statistically difference between two groups. Graft patency is 100% in both groups. No conversion case to sternotomy in MICS. Regarding complications, there were 0 cases of cerebral infarction, 0 cases of mediastinitis, 0 cases of wound infection in MICS. On the other hand, in Sternotomy, there were 0 cases of cerebral infarction, 0 cases of mediastinitis, 4 cases of wound infection. In **MICS**, the **average hospital stays** was **13 $\pm$ 7.3 days**, which was significantly better than **17 $\pm$ 6.9 days** in **Sternotomy** (p=0.04).

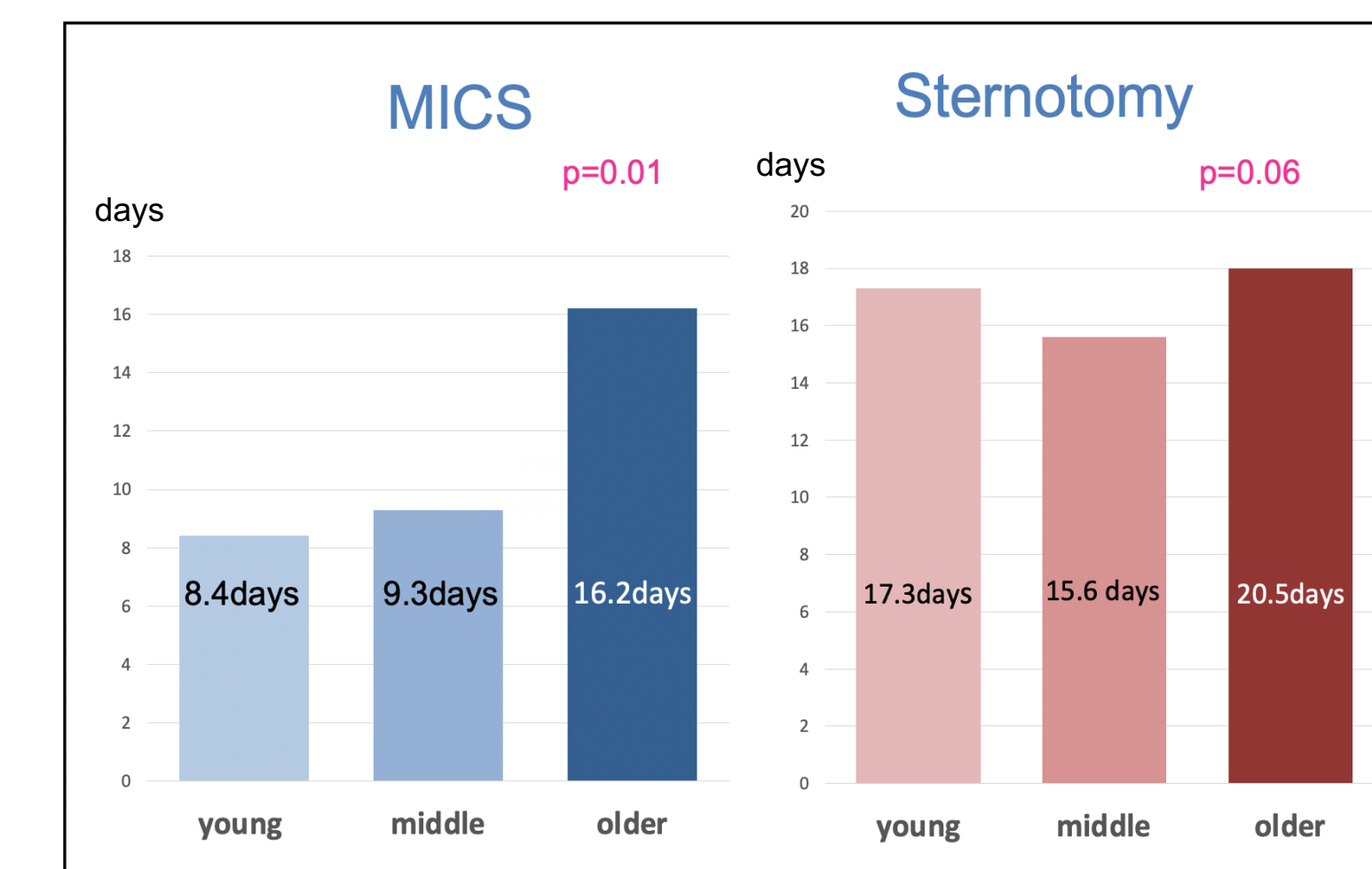


Figure 2

	MICS	Sternotomy	P value
n	21	50	
Age	76.7 $\pm$ 7.1	72.8 $\pm$ 5.7	0.02
Men(%)	19(90.5%)	40(80.0%)	0.28
DM(%)	7(33.3%)	25(50.0%)	0.20
CRF(%)	13(61.9%)	28(56.0%)	0.65
HD(%)	0	14(28.0%)	0.007
EF(%)	64.5 $\pm$ 10.2	59.3 $\pm$ 13.0	0.14
Smoking(%)	14(69.0%)	34(66.2%)	0.91

Table 2

	MICS	Sternotomy	P value
n	21	50	
Anastomosis	1.9 $\pm$ 0.9	2.2 $\pm$ 0.8	0.0002
Operation time (median min)	373	337	0.15
Bleeding (median ml)	635	1149	0.98
Graft patency (%)	100	100	N.S.
Conversion to sternotomy	0	—	N.S.
Stroke (%)	0	0	N.S.
Mediastinitis (%)	0	0	N.S.
Surgical Site Infection (%)	0	4	N.S.
In Hospital mortality (%)	0	0	N.S.
Hospital stay (days)	13 $\pm$ 7.3	17 $\pm$ 6.9	0.04

Table 3

CONCLUSIONS: Aorta No-touch Total Arterial MICS CABG may mitigate the complications compared with sternotomy CABG and could improve surgical advantage due to fast ADL recovery.