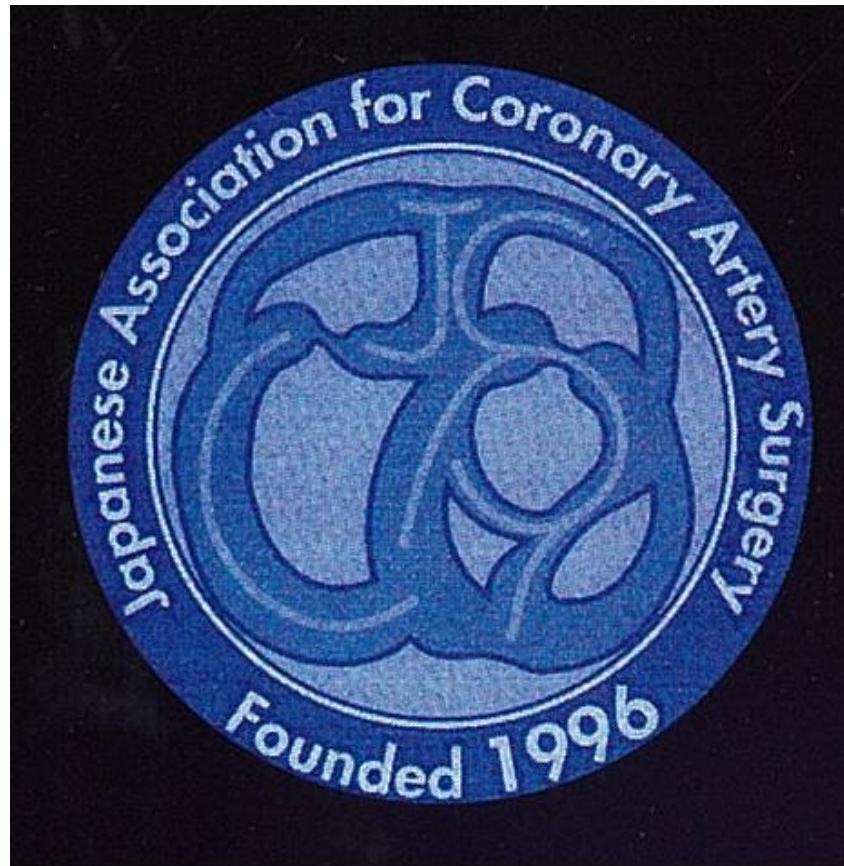


Coronary artery surgery results In 2016



The Survey Committee of Japanese Association
for Coronary Artery Surgery (JACAS)

Coronary artery bypass grafting (CABG), 2016

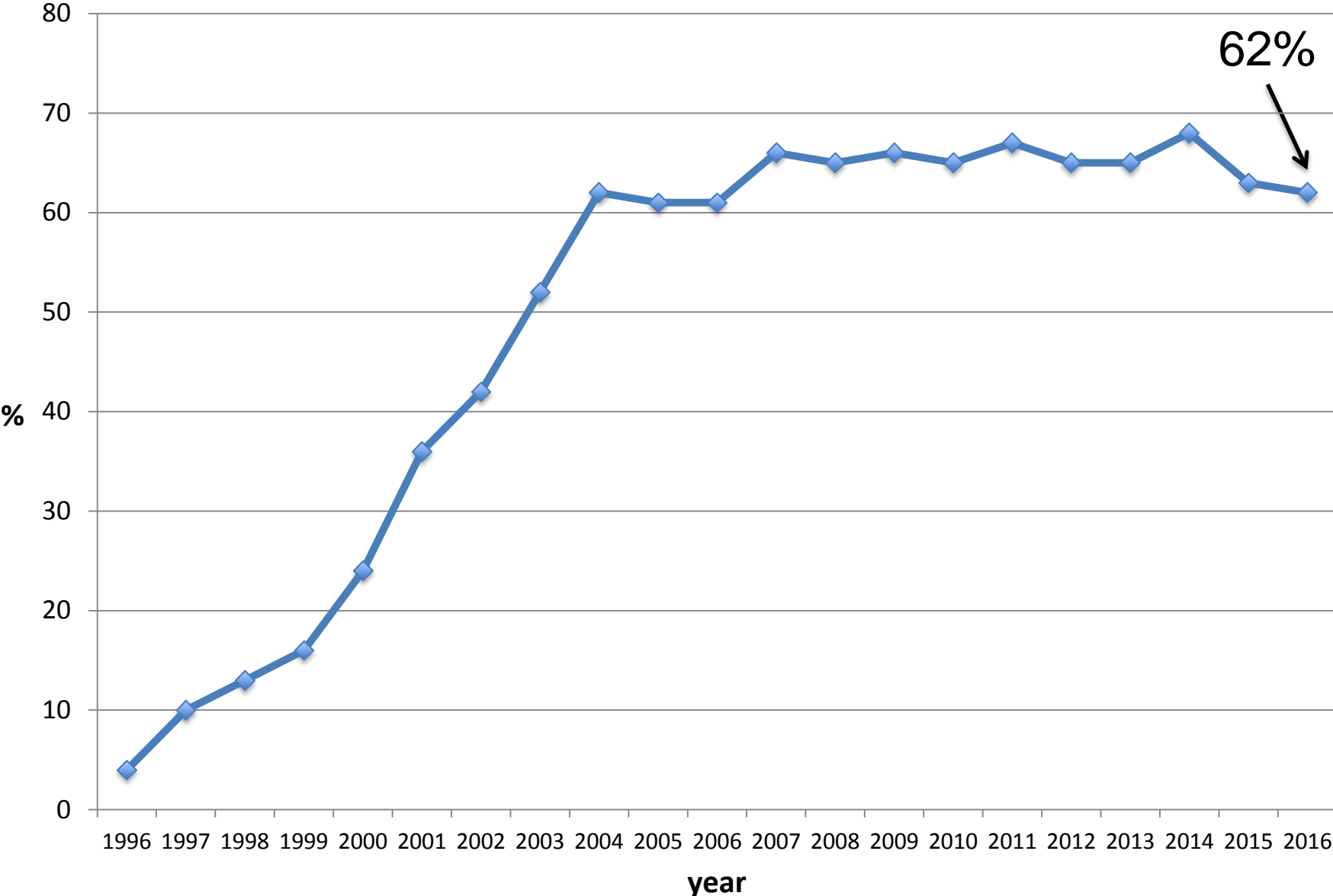
Total cases	: 12,729
Isolated CABG	: 8,492 (67%)(previous year:70%)
Concomitant CABG	: 4,237 (33%)(previous year:30%)

Isolated CABG

Initial elective : 7,142
Off-pump : 4,424
On-pump : 2,718
(Off-pump rate : 62%)
(previous year : 63%)

Except initial elective :1,350
Off-pump : 695
On-pump : 655
(Off-pump rate : 51%)
(previous year : 51%)

Changes of off-pump CABG rate (Initial elective CABG)



Initial elective CABG :7,142(100%)

On-pump (arrest) :1,706(23.9%)

On-pump (beating) :1,012(14.2%)

Off-pump (total) :4,424(61.9%)

Off-pump (complete) :4,322

On-pump (conversion) : 102

Off-pump complete rate :97.7%

Off to on-pump conversion rate :2.3%
(previous year:1.8%)

Mortality of isolated CABG :1.66%
(previous year:1.72%)

Mortality of initial elective CABG:1.09%
(previous year:0.83%)

On-pump (arrest) :1.29%

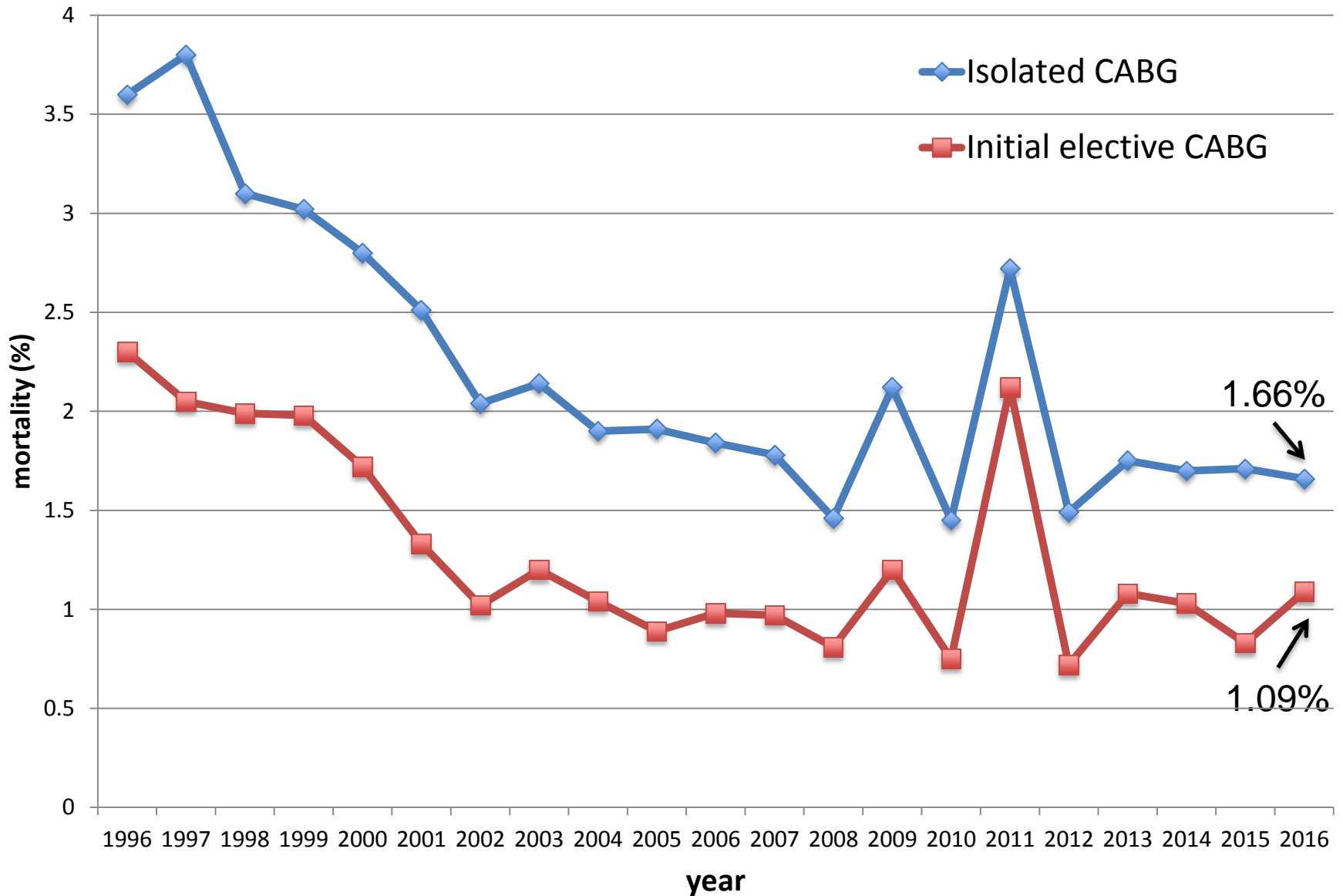
On-pump (beating):1.28%

Off-pump (total) :0.97%

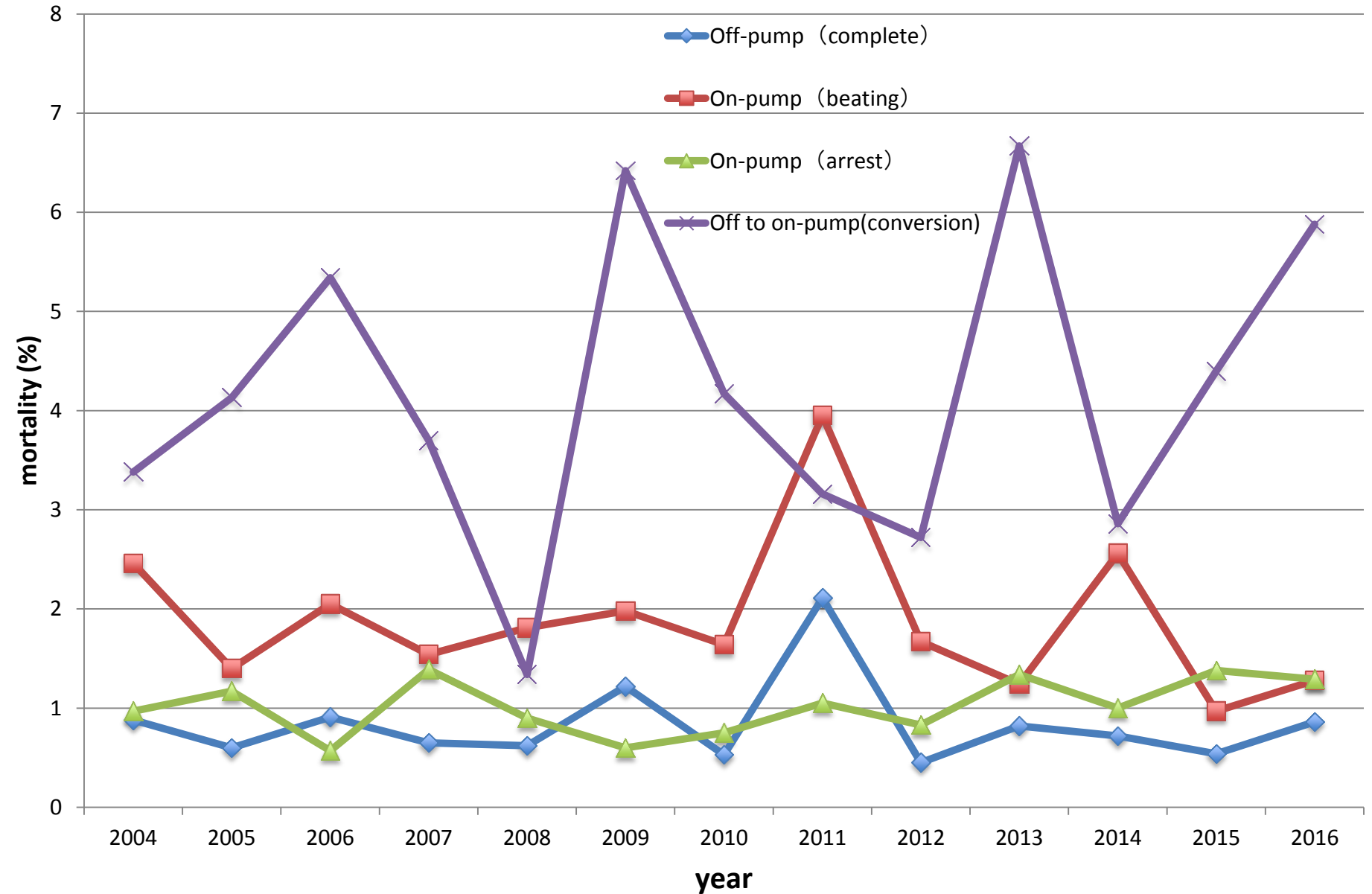
Off-pump (complete):0.86%
(previous year:0.54%)

On-pump (conversion):5.88%
(previous year:4.40%)

Changes of mortality (Isolated and initial elective CABG)

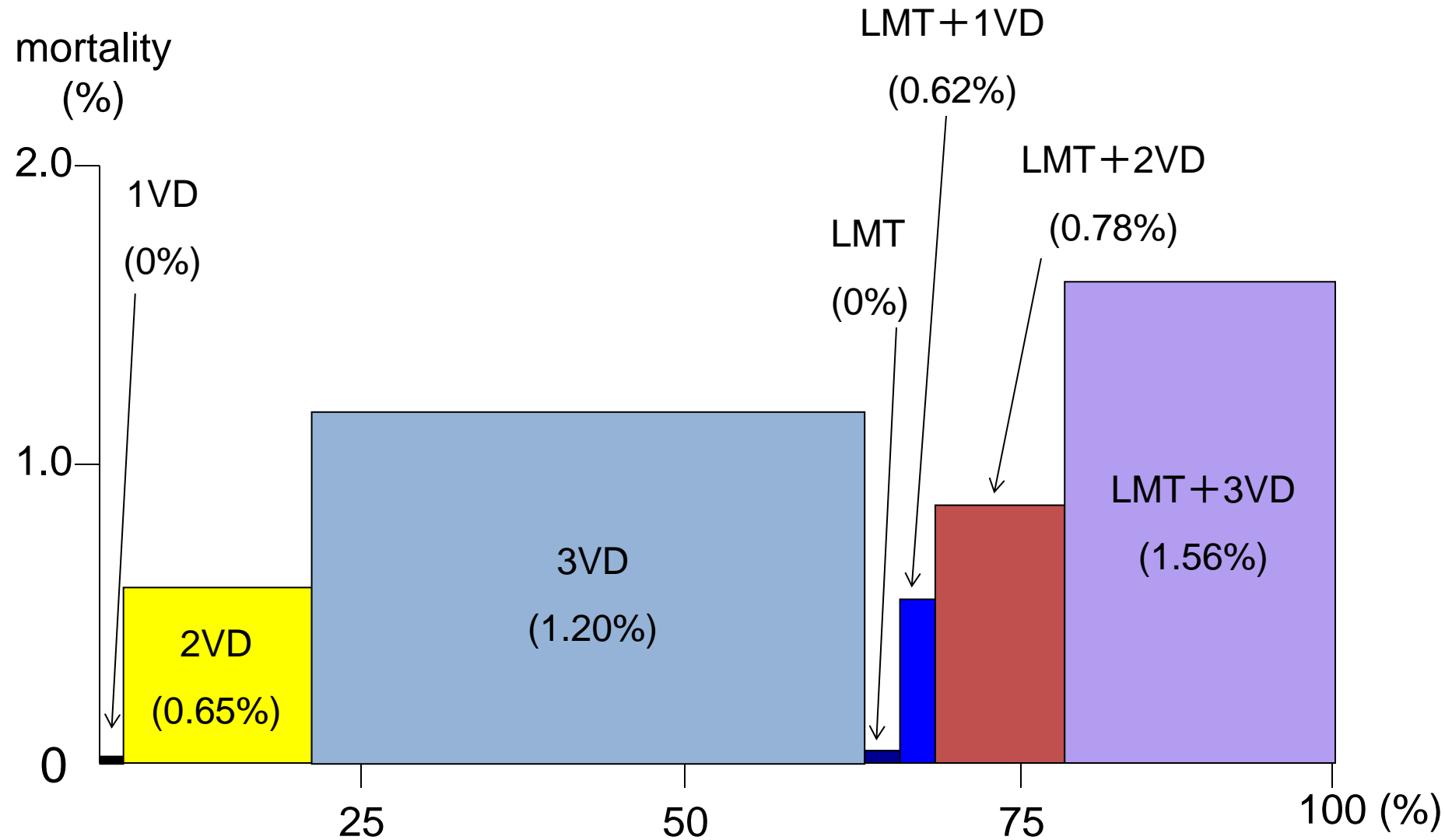


Changes of mortality for procedures (Initial elective CABG)



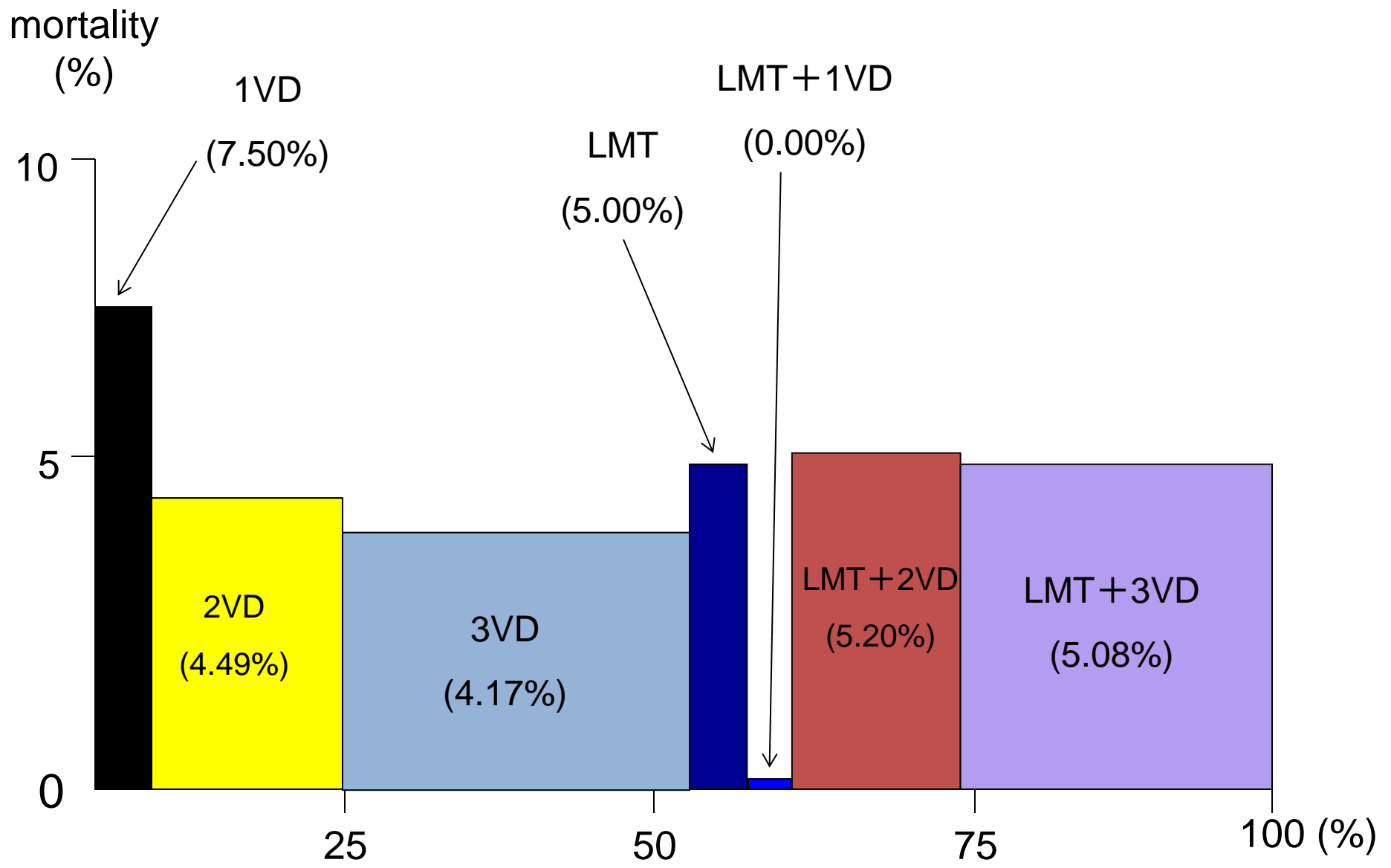
Mortality according to number of diseased vessels

(Initial elective CABG: 7,142, mortality: 1.09%)



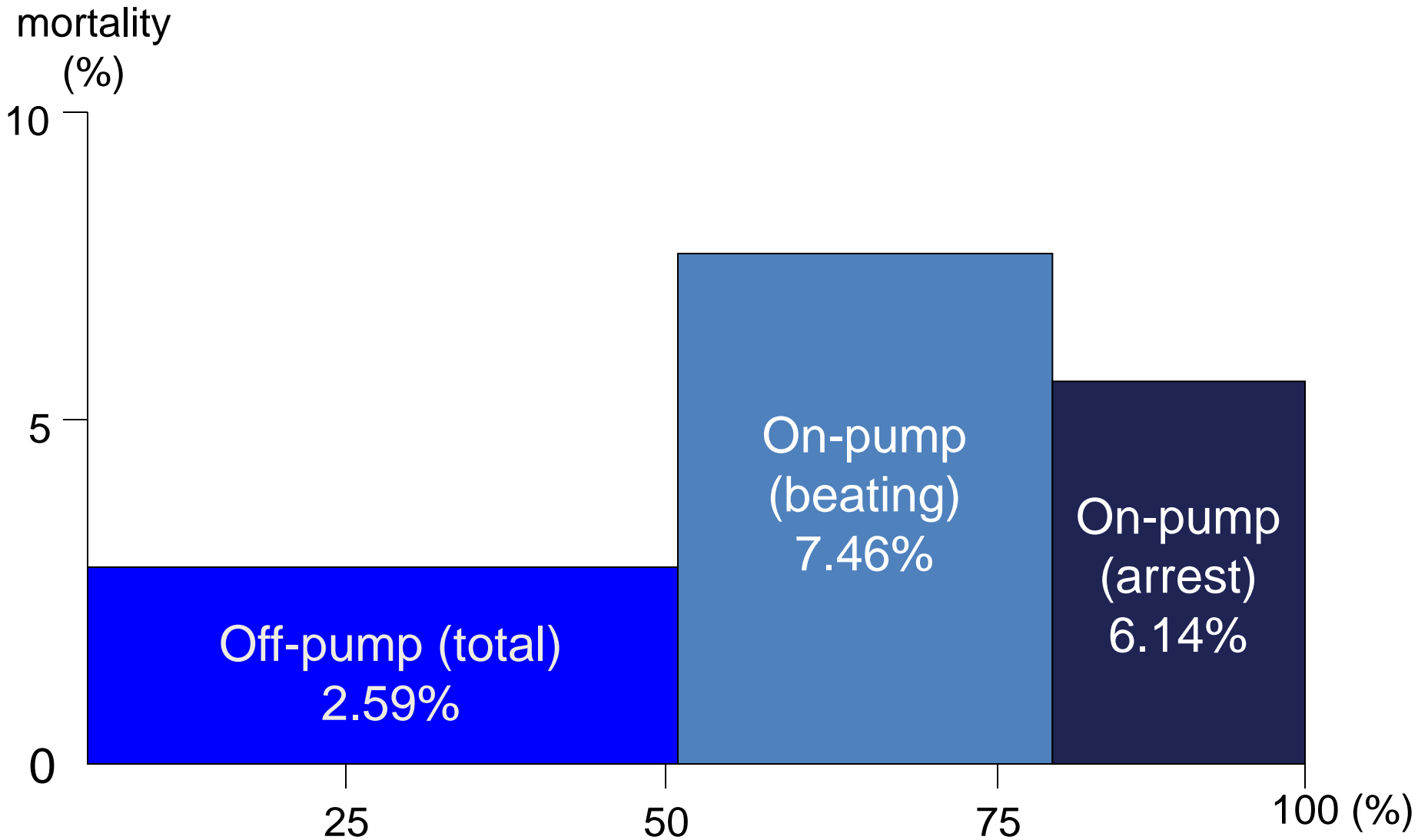
Mortality according to number of diseased vessels

(Except initial elective CABG: 1,350, mortality:4.67%)

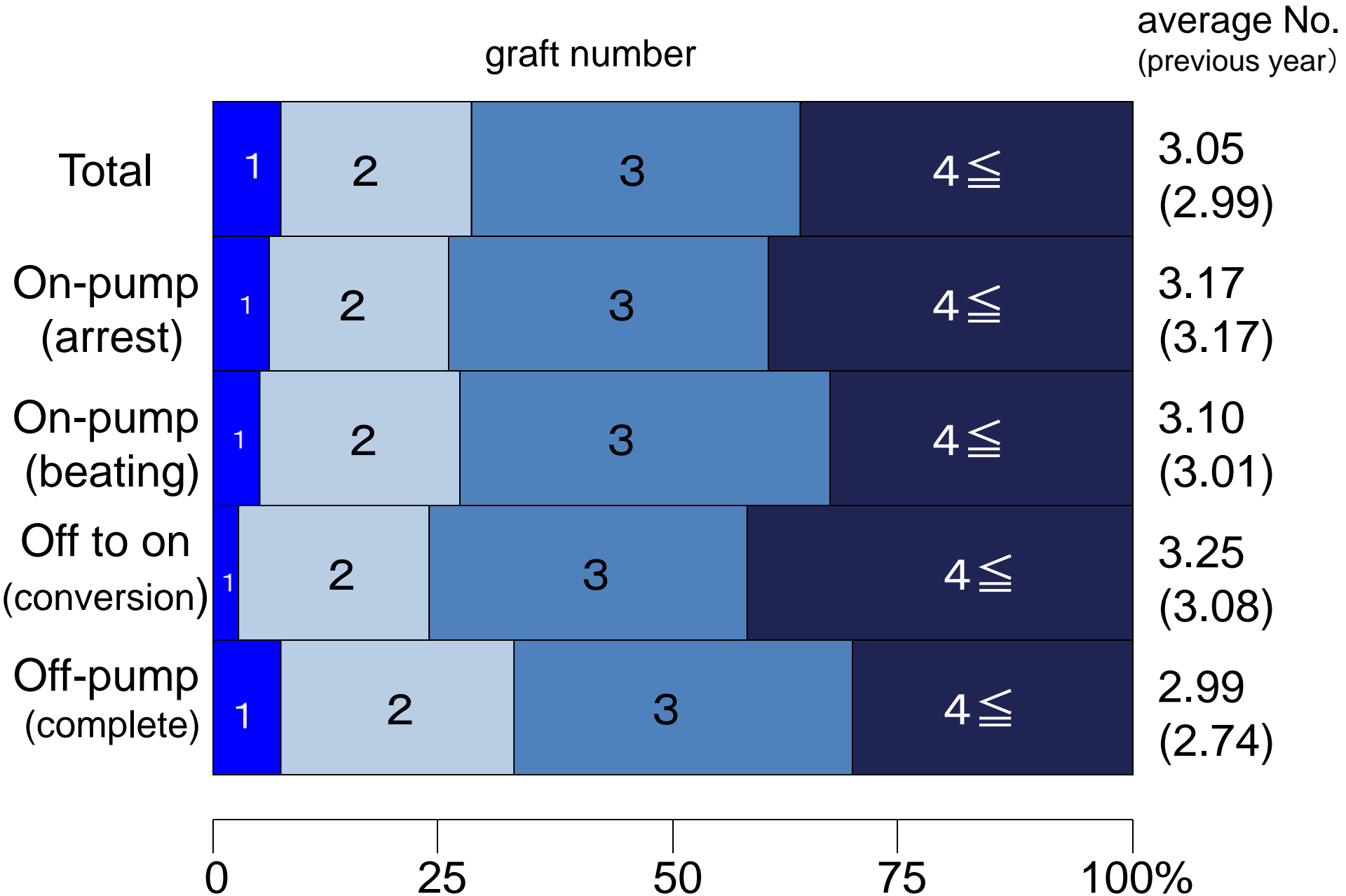


Mortality according to surgical procedures

(Except initial elective CABG: 1.350, mortality:4.67%)



Graft number according to procedures (Initial elective CABG)

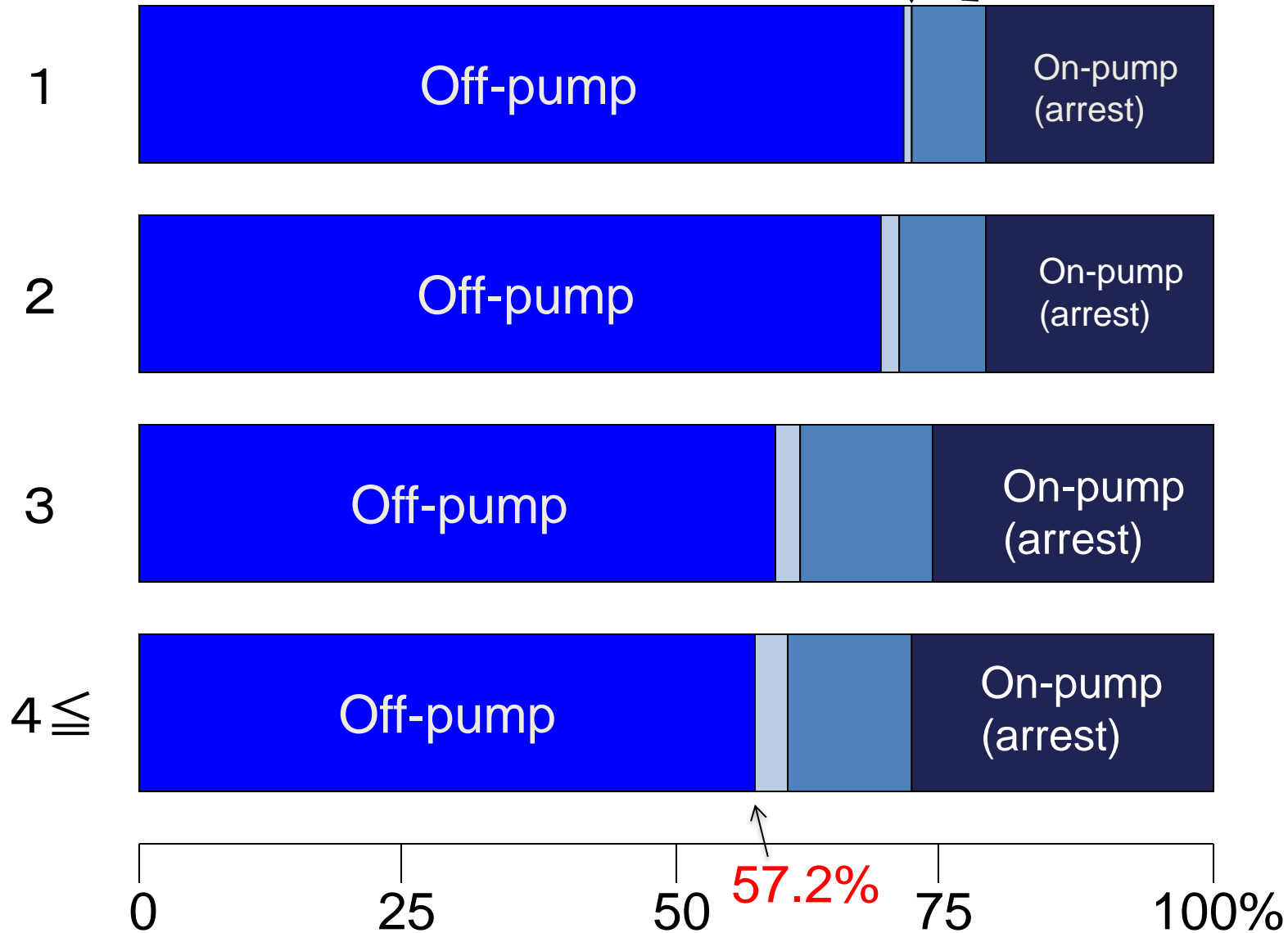


Procedure according to graft number (Initial elective CABG)

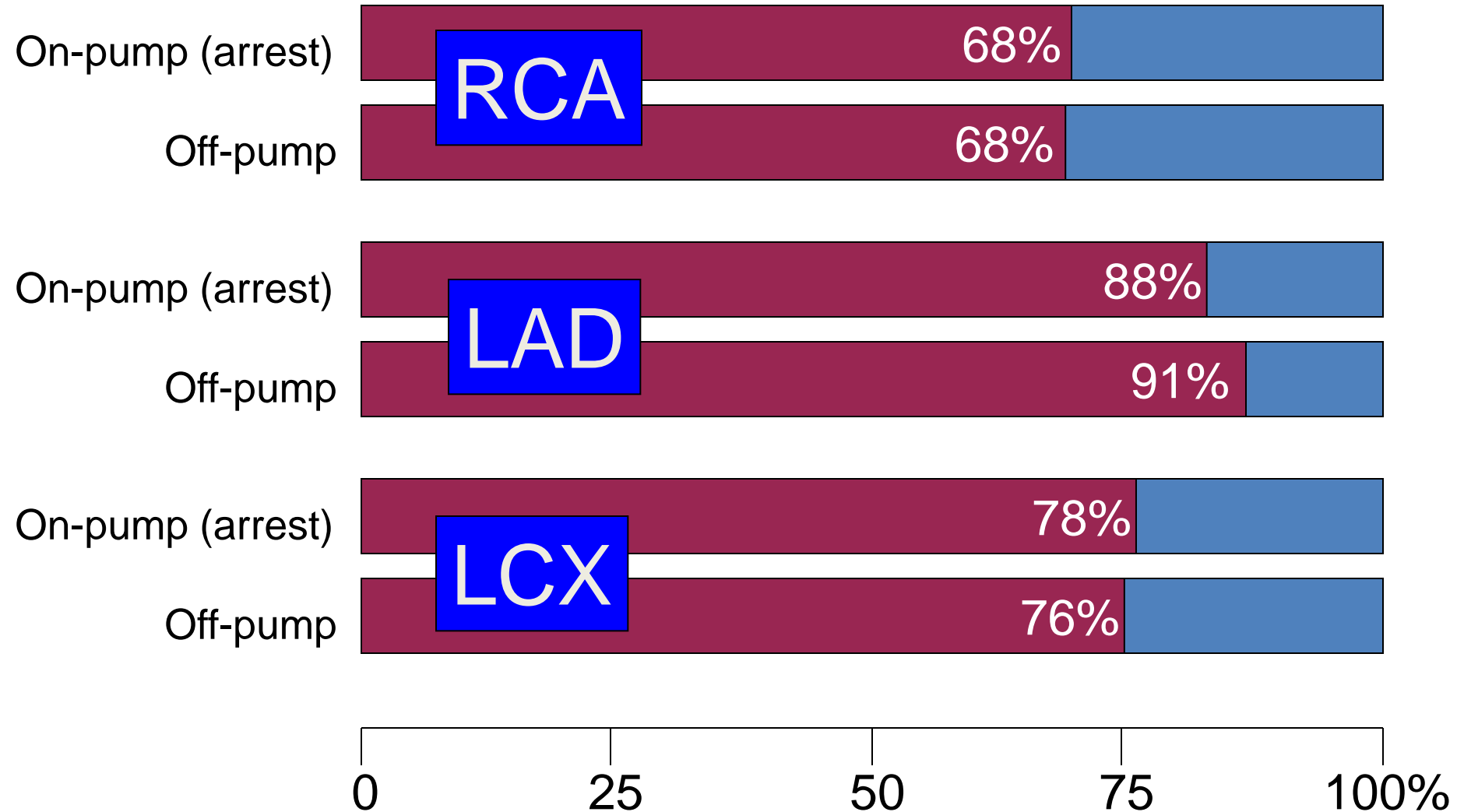
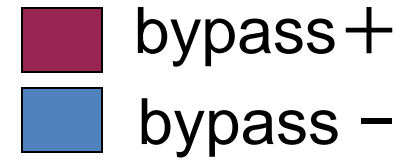
Off to on-pump (conversion)

On-pump (beating)

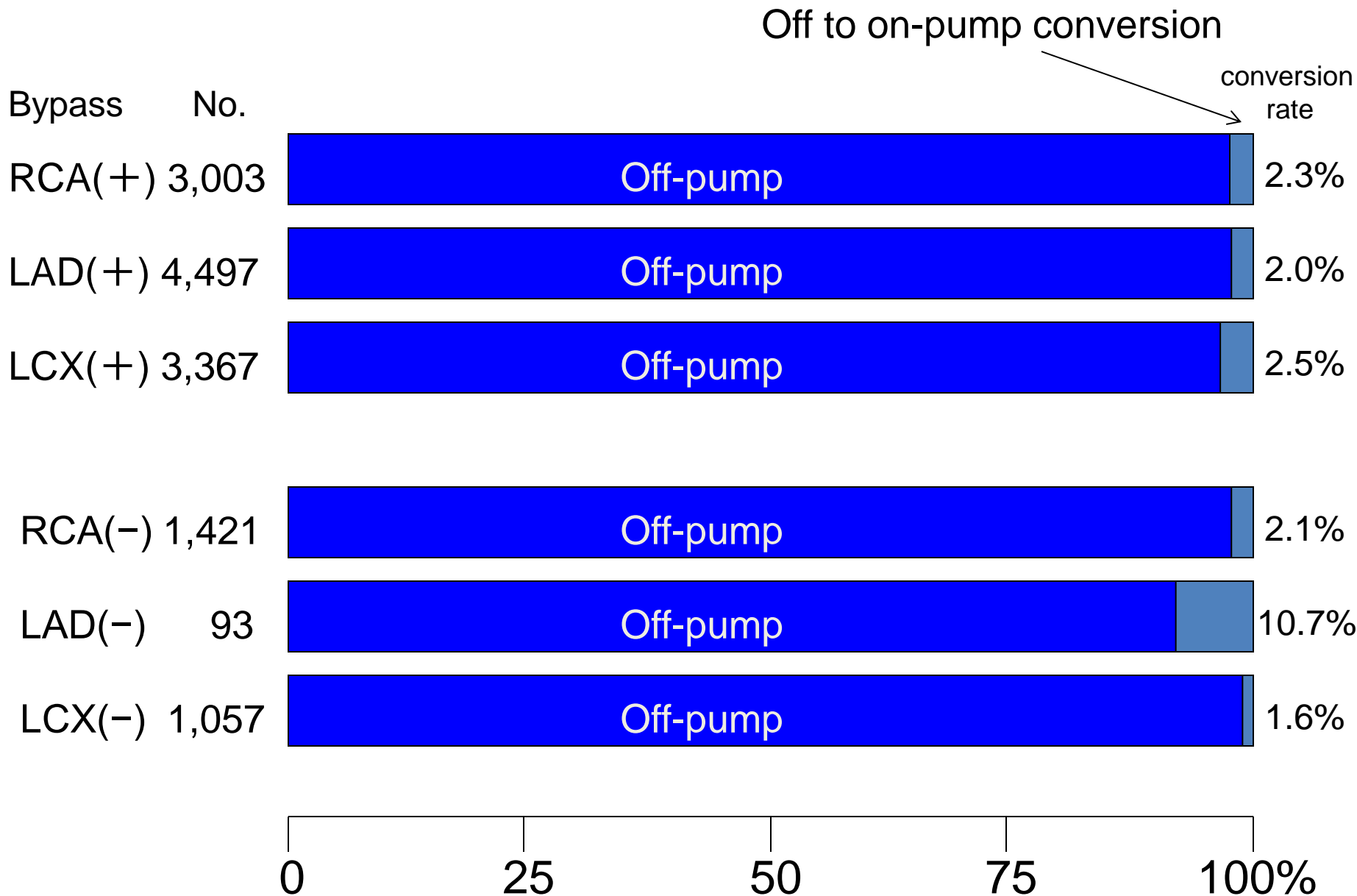
graft number



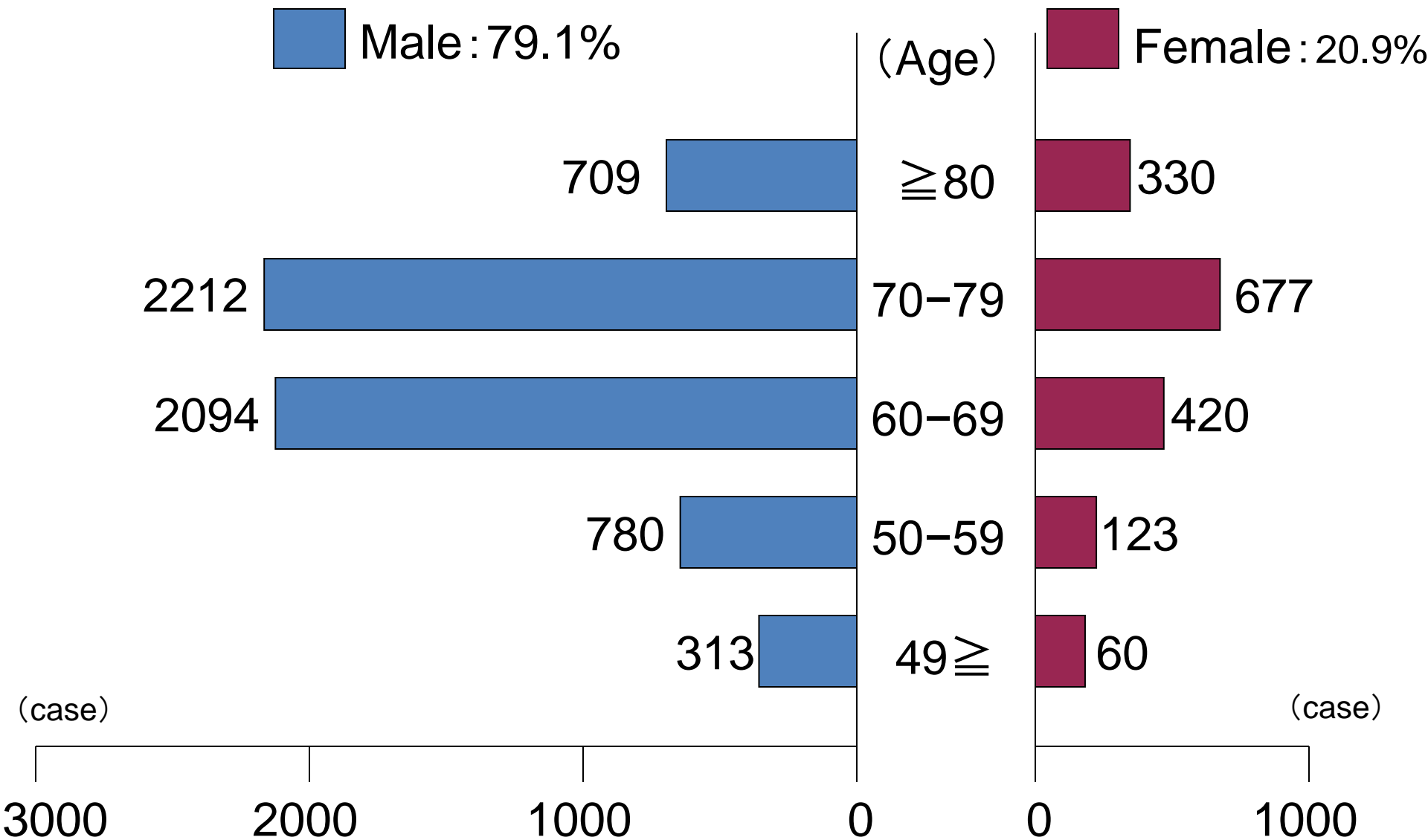
On-pump (arrest) vs. off-pump (Initial elective CABG)



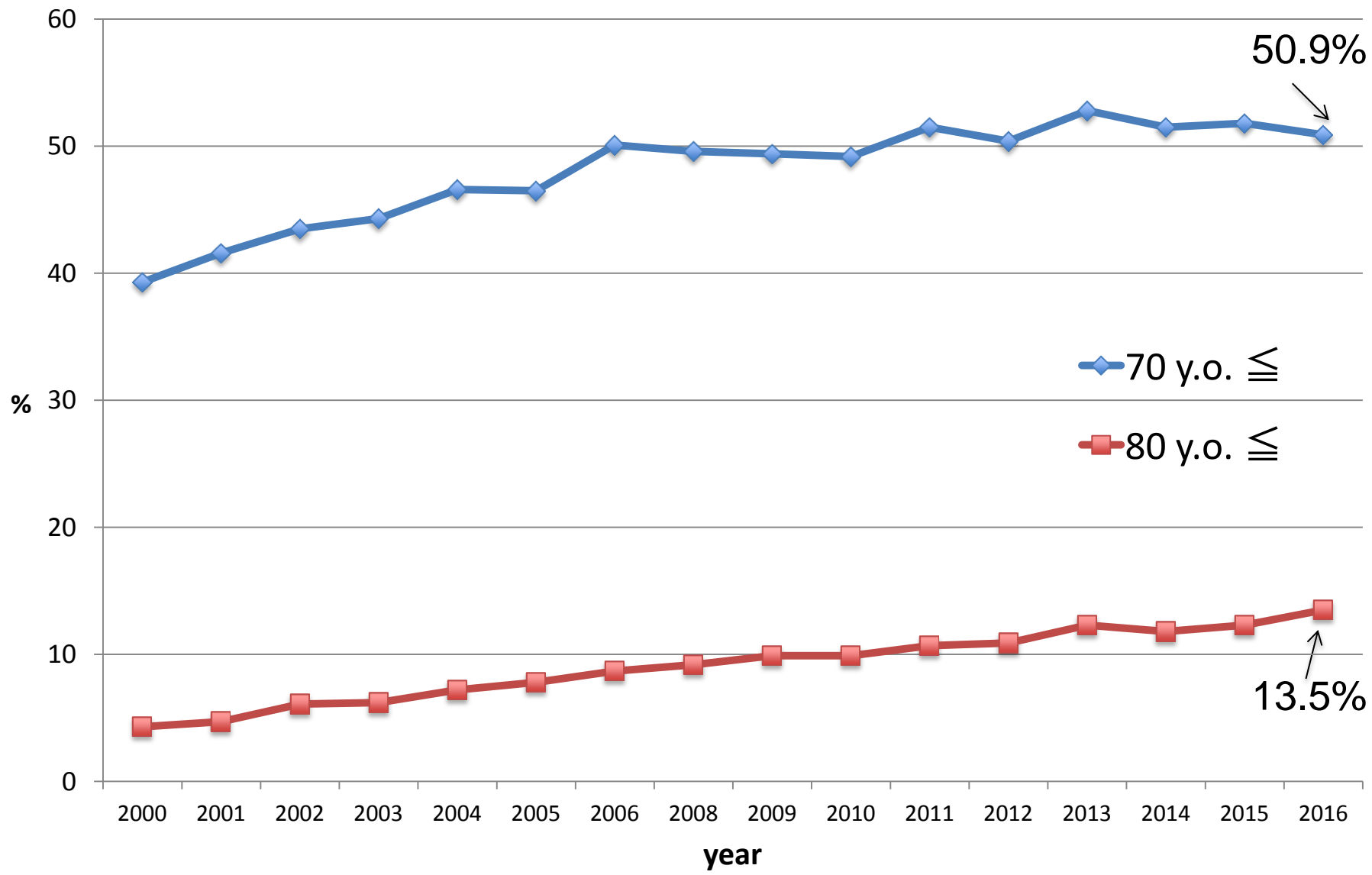
Off-pump vs. off to on-pump conversion (Initial elective CABG)



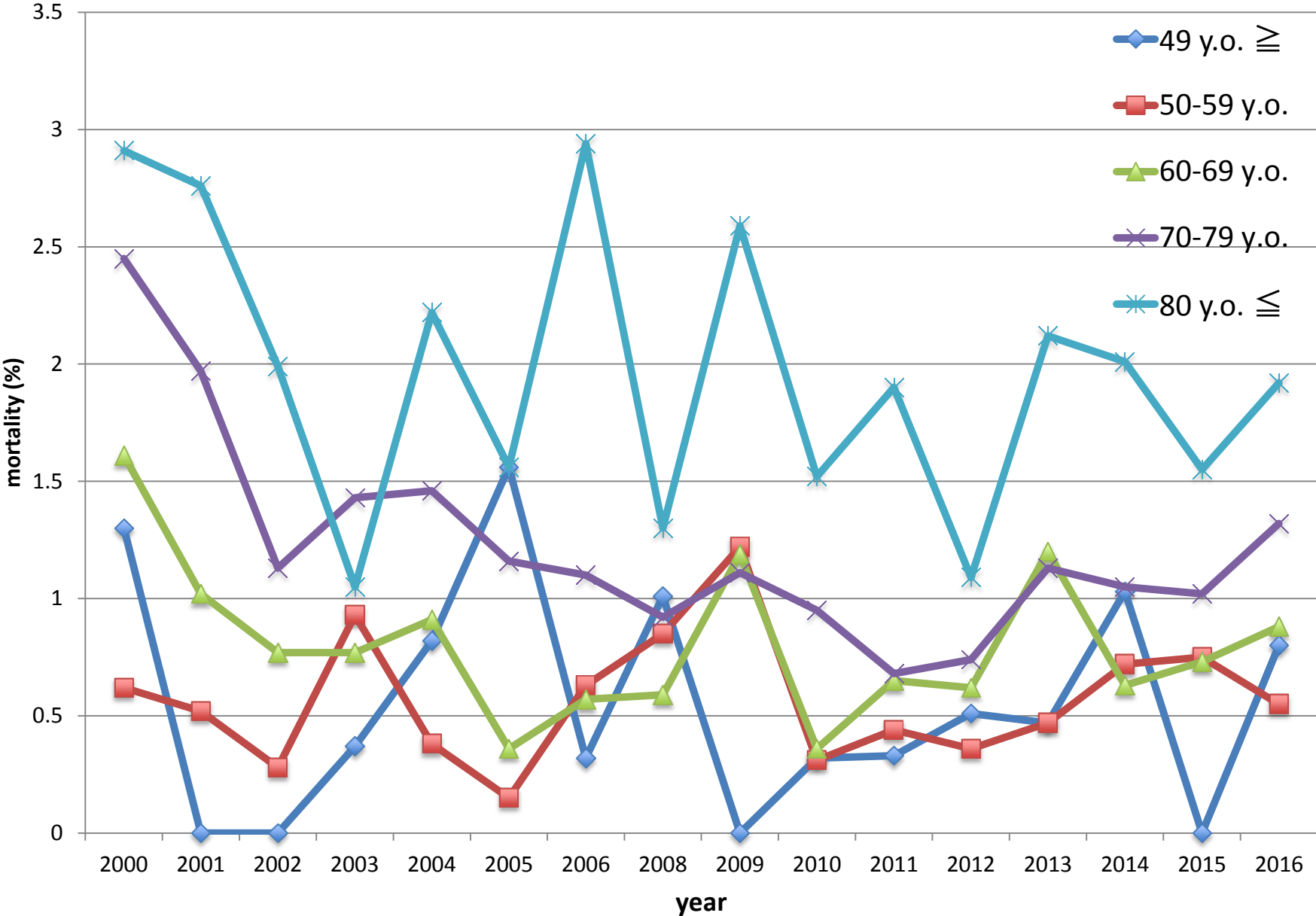
Age distribution according to gender (Initial elective CABG)



Changes of elderly cases (Initial elective CABG)

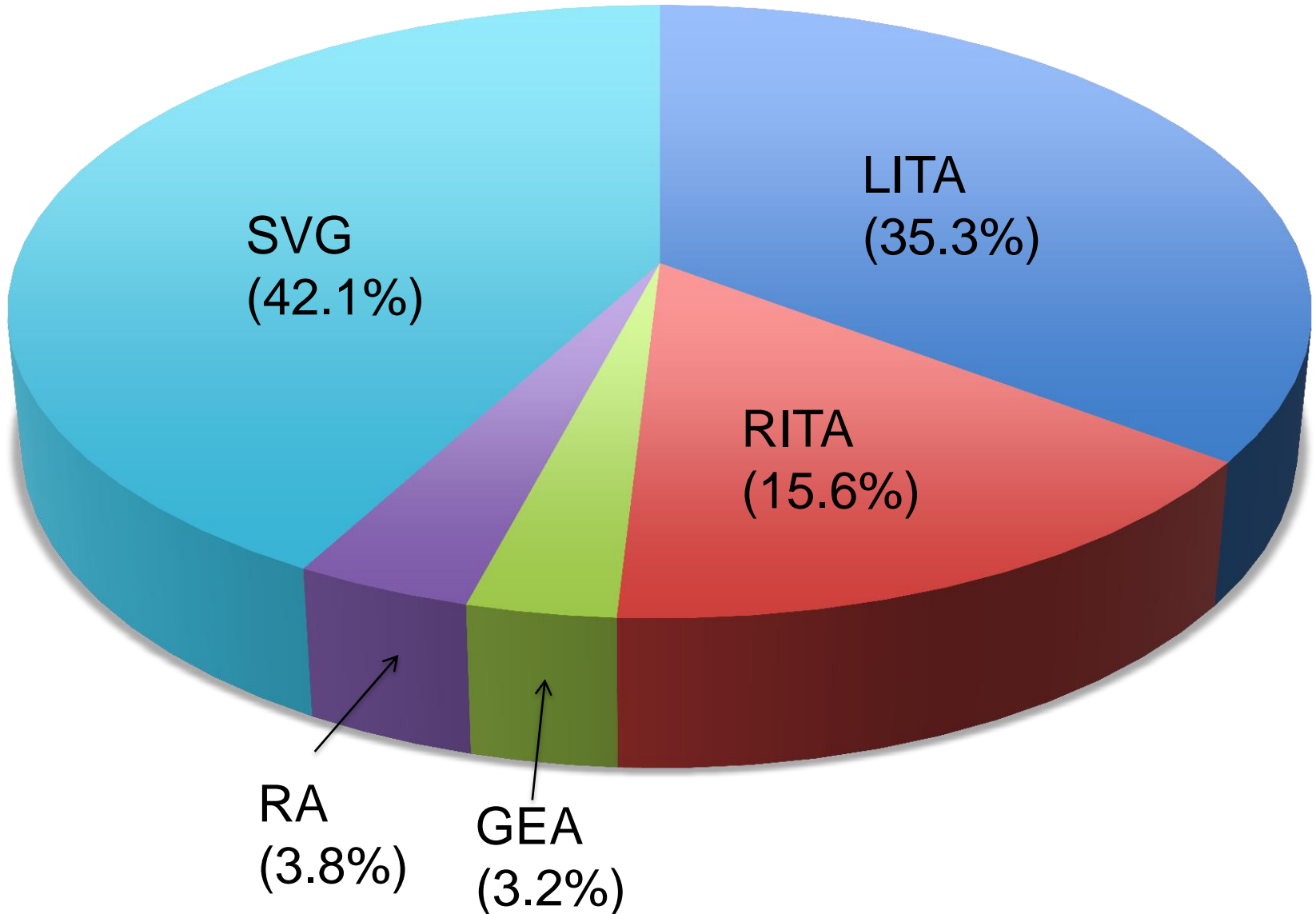


Changes of mortality according age (Initial elective CABG)

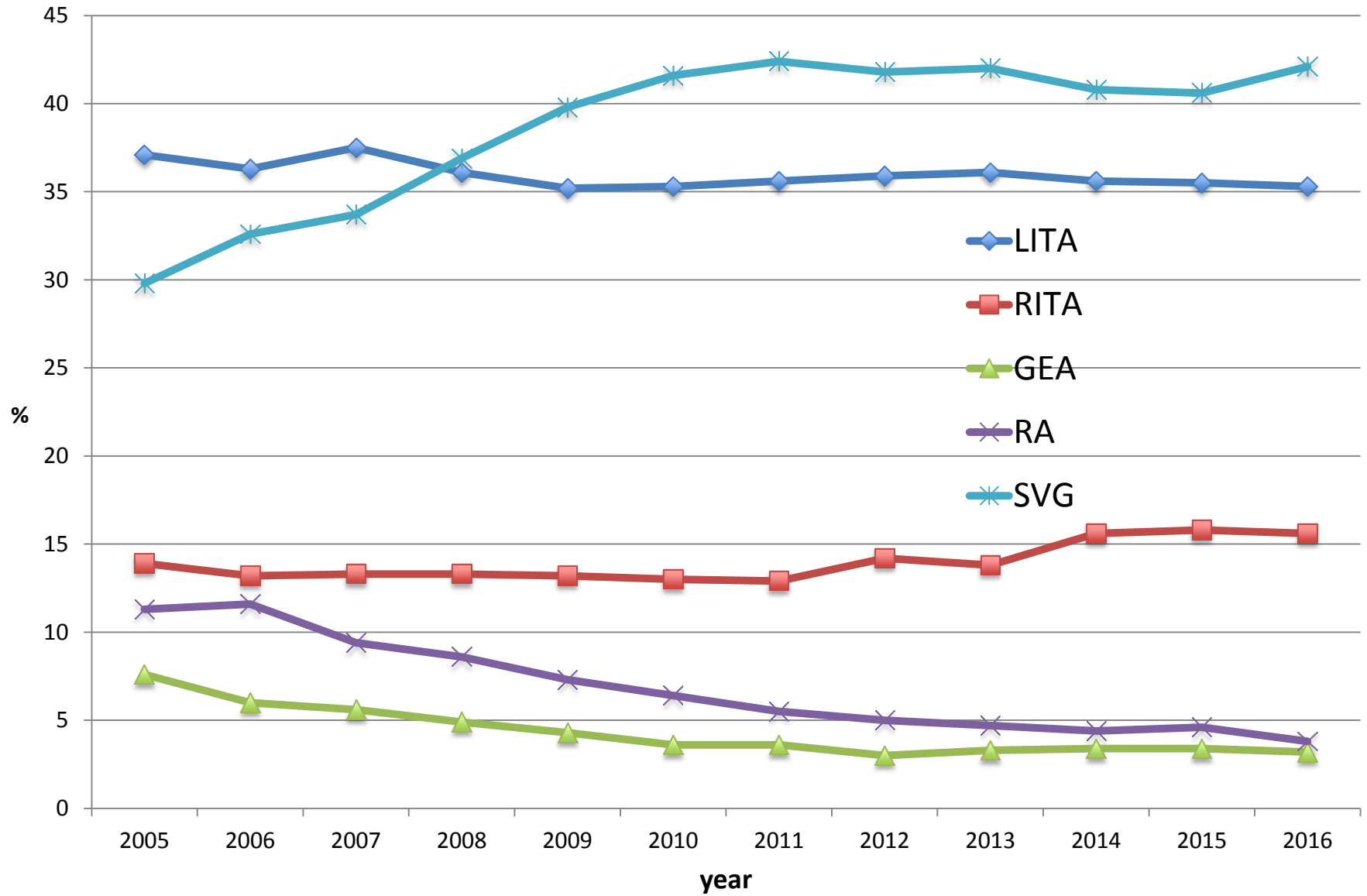


Graft selection

(Total graft number of isolated CABG : 22,938)



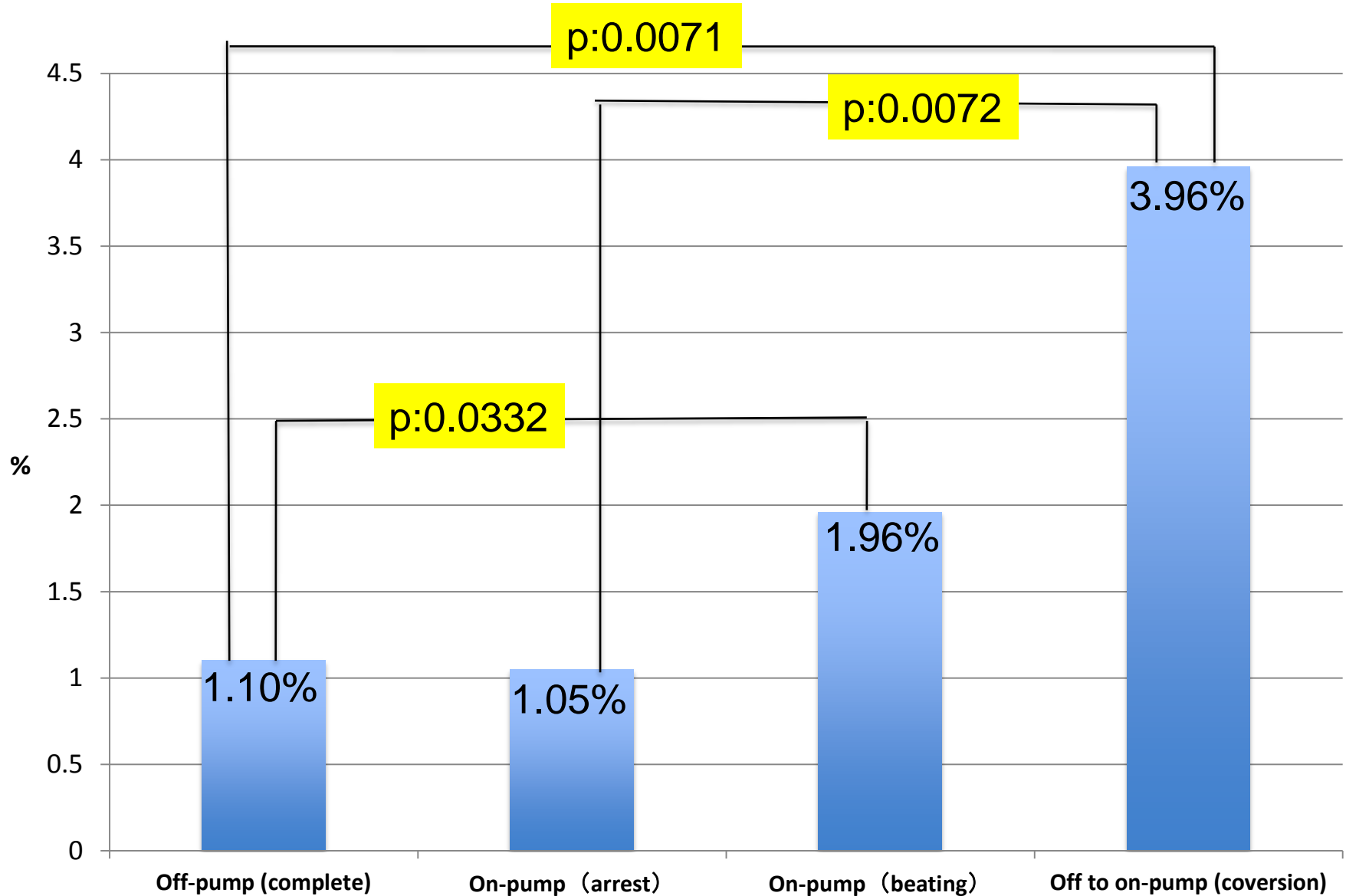
Changes of graft selection



Stroke rate according to procedures (Isolated CABG)

Stroke cases: 108

Stroke rate: $108/8492(\text{isolated CABG}) = 1.27\%$



Results of emergency CABG after PCI complications

Emergency CABG; operation after PCI complications (coronary occlusion and/or bleeding), within 24 hours

Cases: 78

Rate: 78 / 8492 (isolated CABG) ; 0.92%

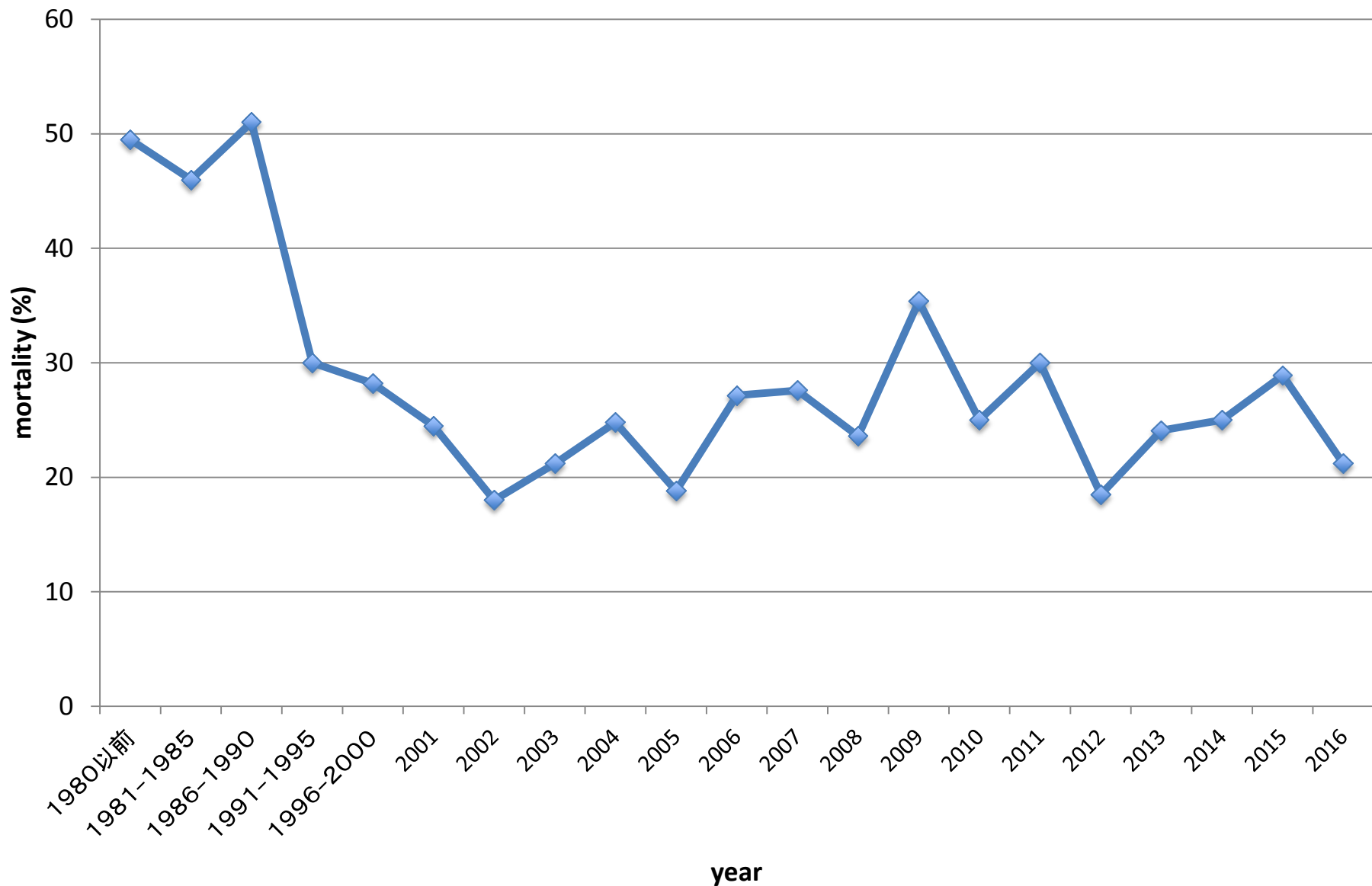
Death cases: 8

Mortality: 10.2%

Results

	cases	death cases	mortality(%)
CABG①	21	1	4.76
CABG②	27	3	11.11
CABG③	16	3	18.75
CABG④	6	0	0
Other procedures	8	1	12.5

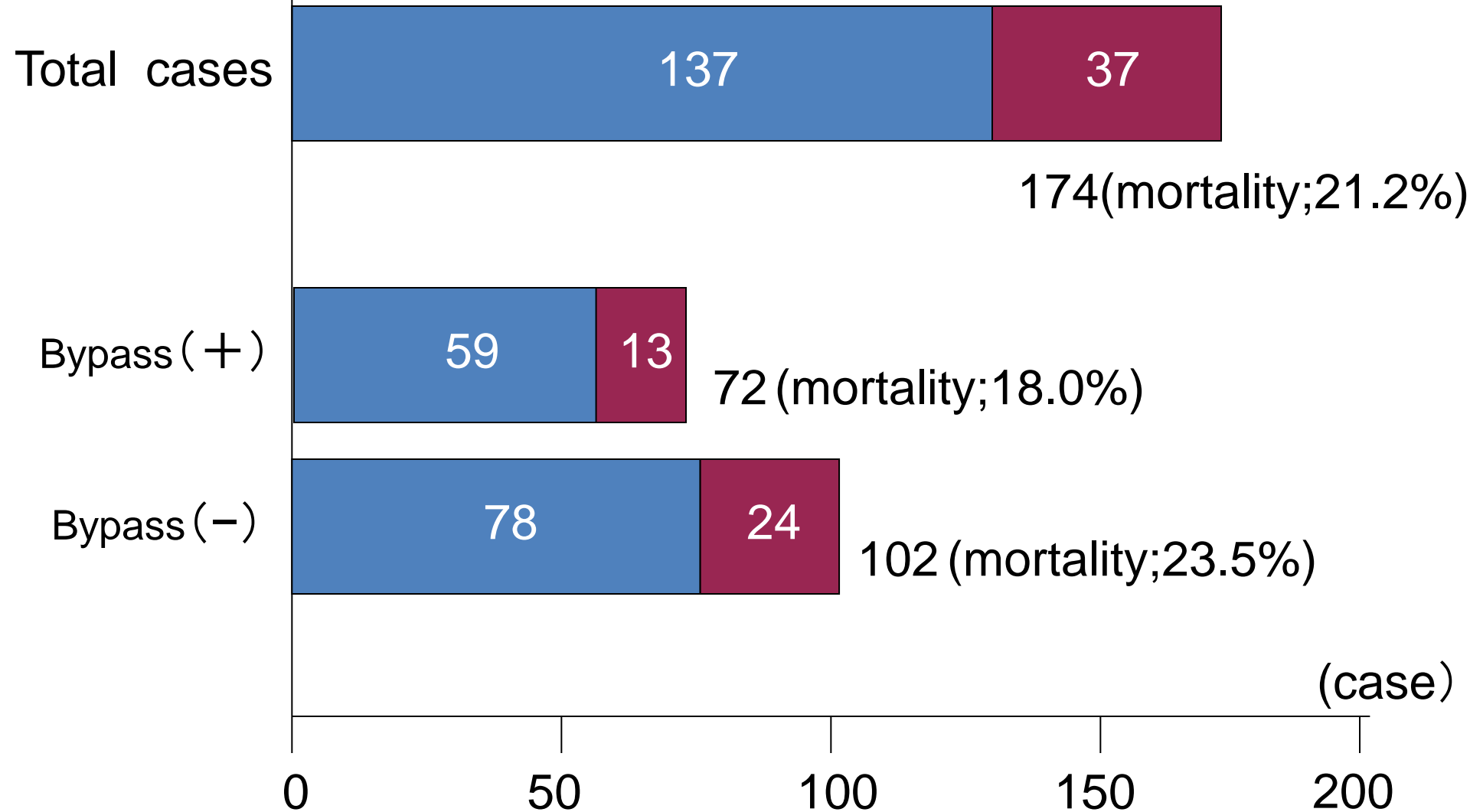
Changes in results of ventricular septal perforation



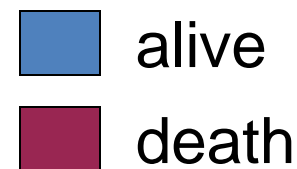
Total No. : 174, death : 37 (mortality : 21.2%)

Results of ventricular septal perforation (1)

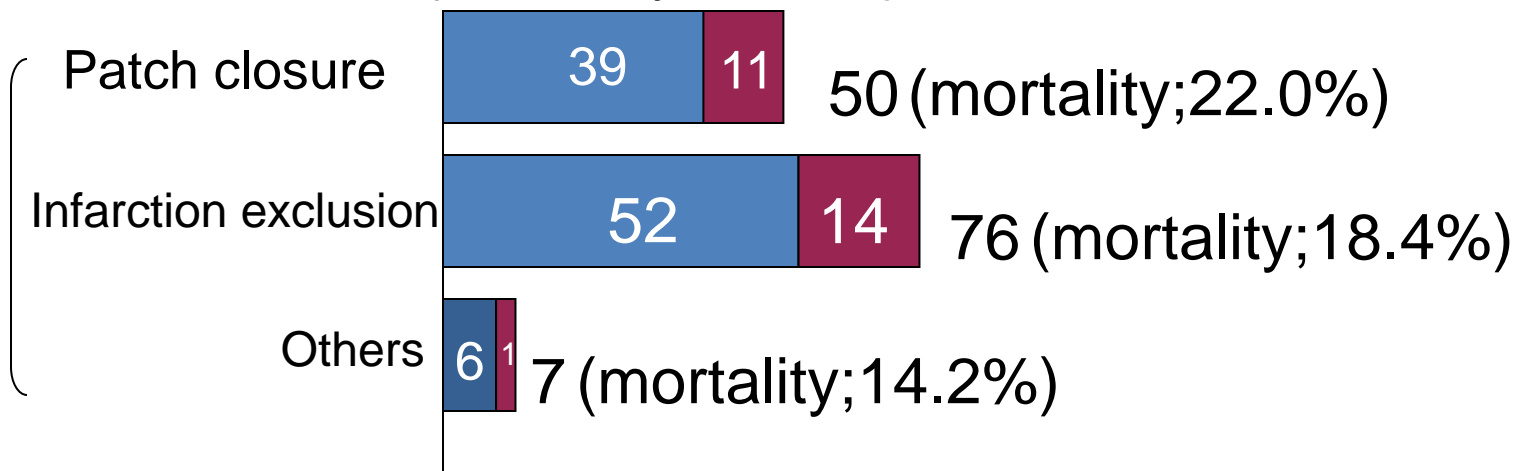
alive
death



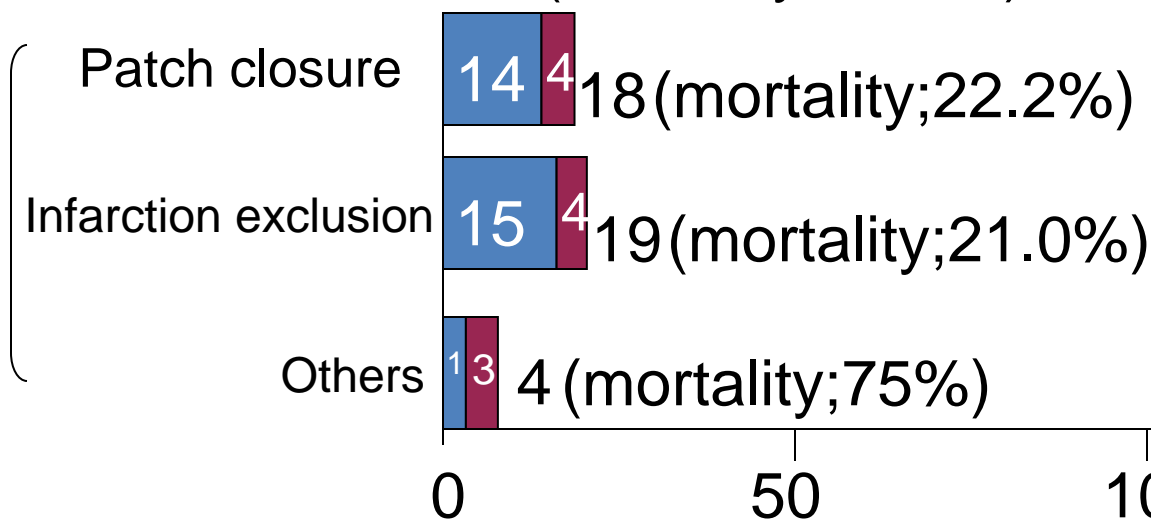
Results of ventricular septal perforation (2)



Anterior infarction(mortality;19.5%)

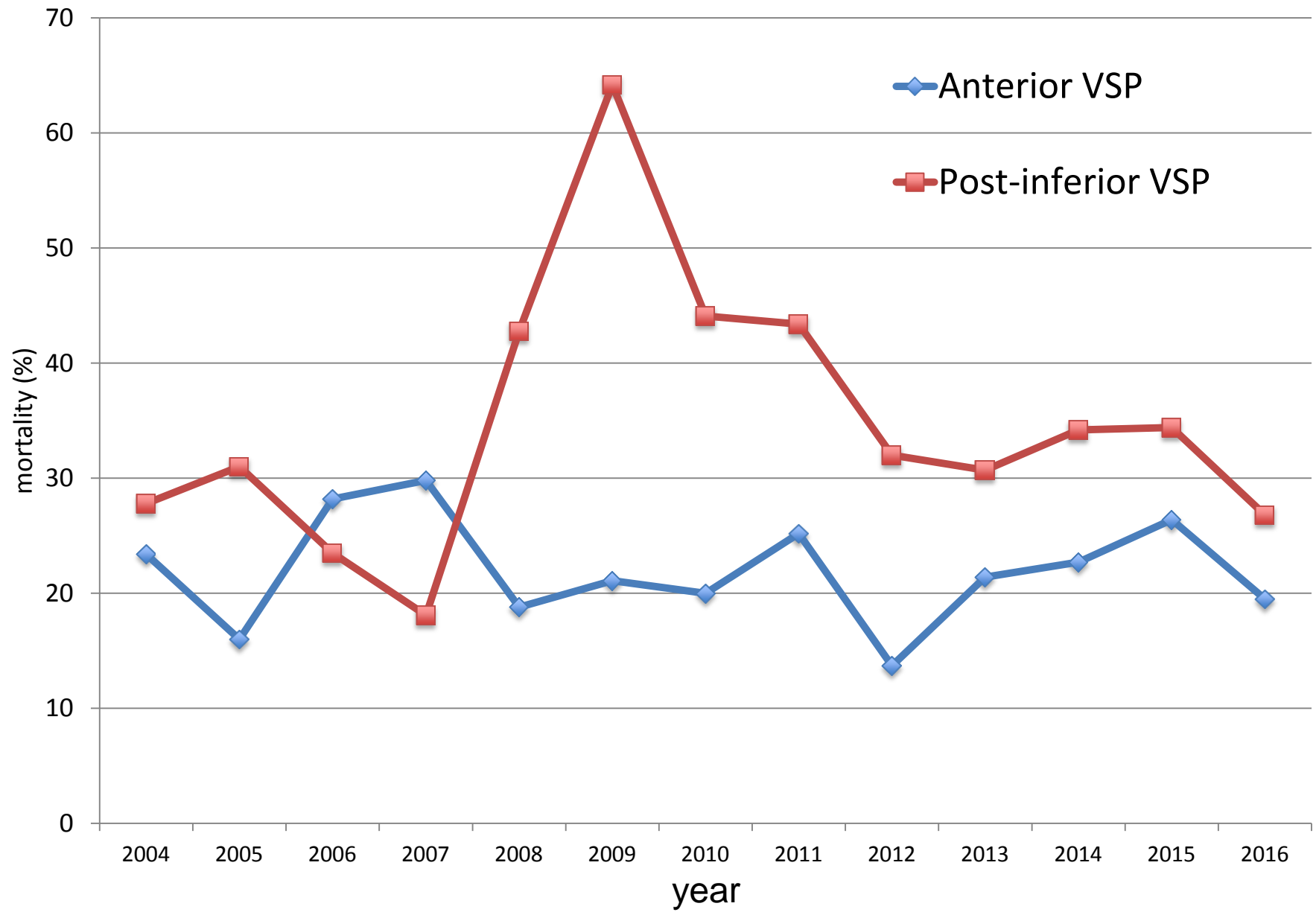


Post-inferior infarction(mortality;26.8%)

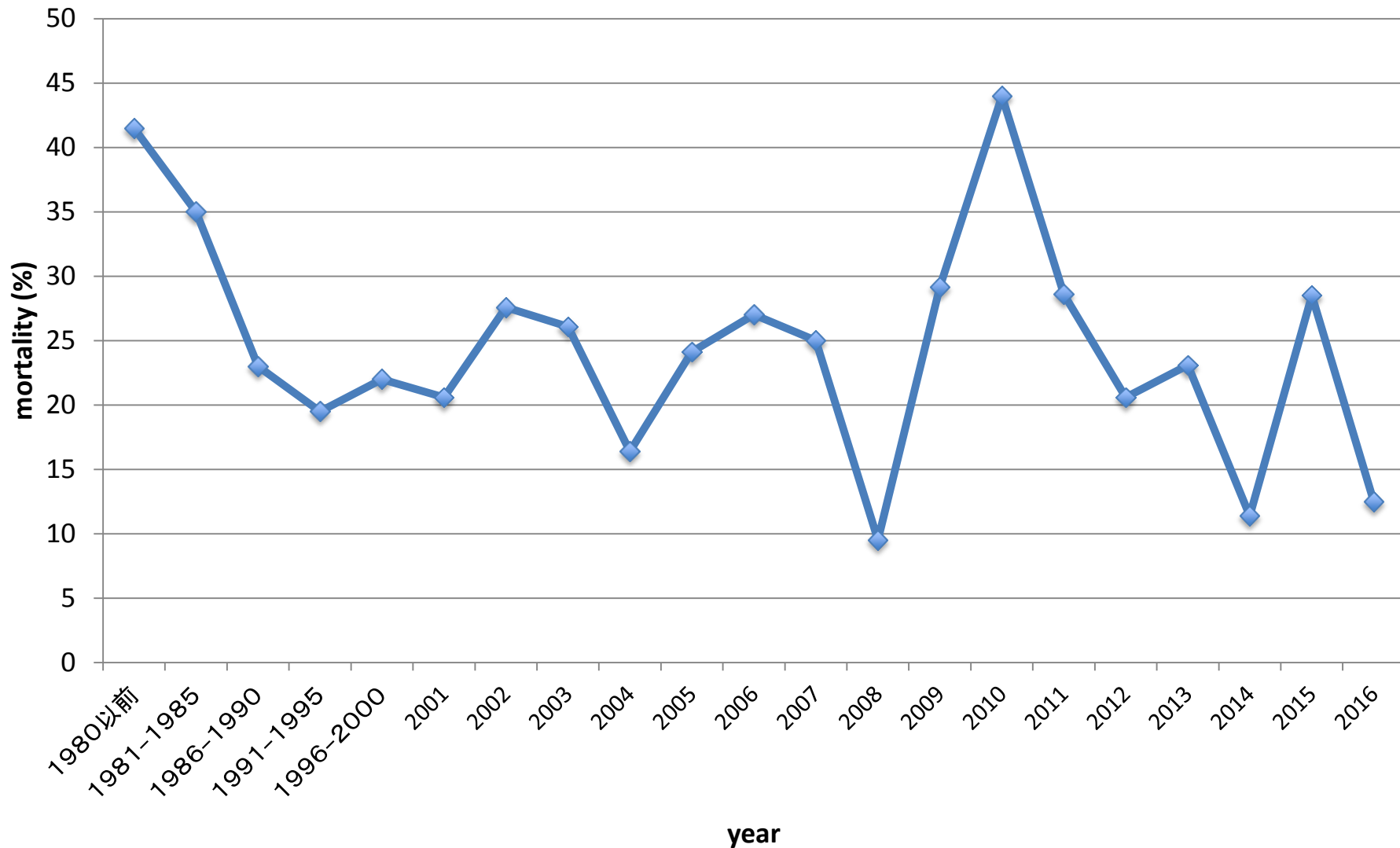


(case)

Changes in results of ventricular septal perforation according to region



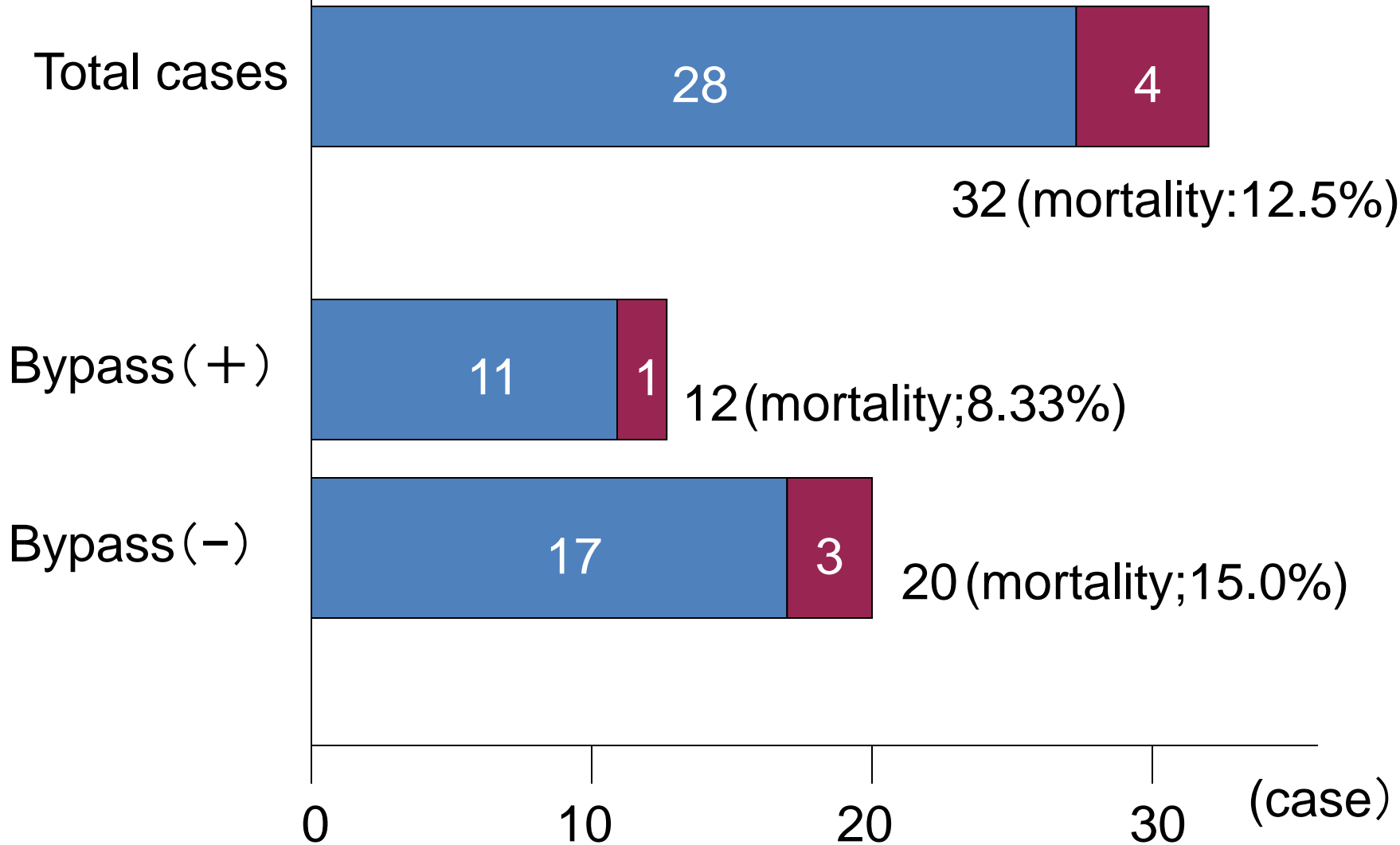
Changes in results of papillary muscle rupture



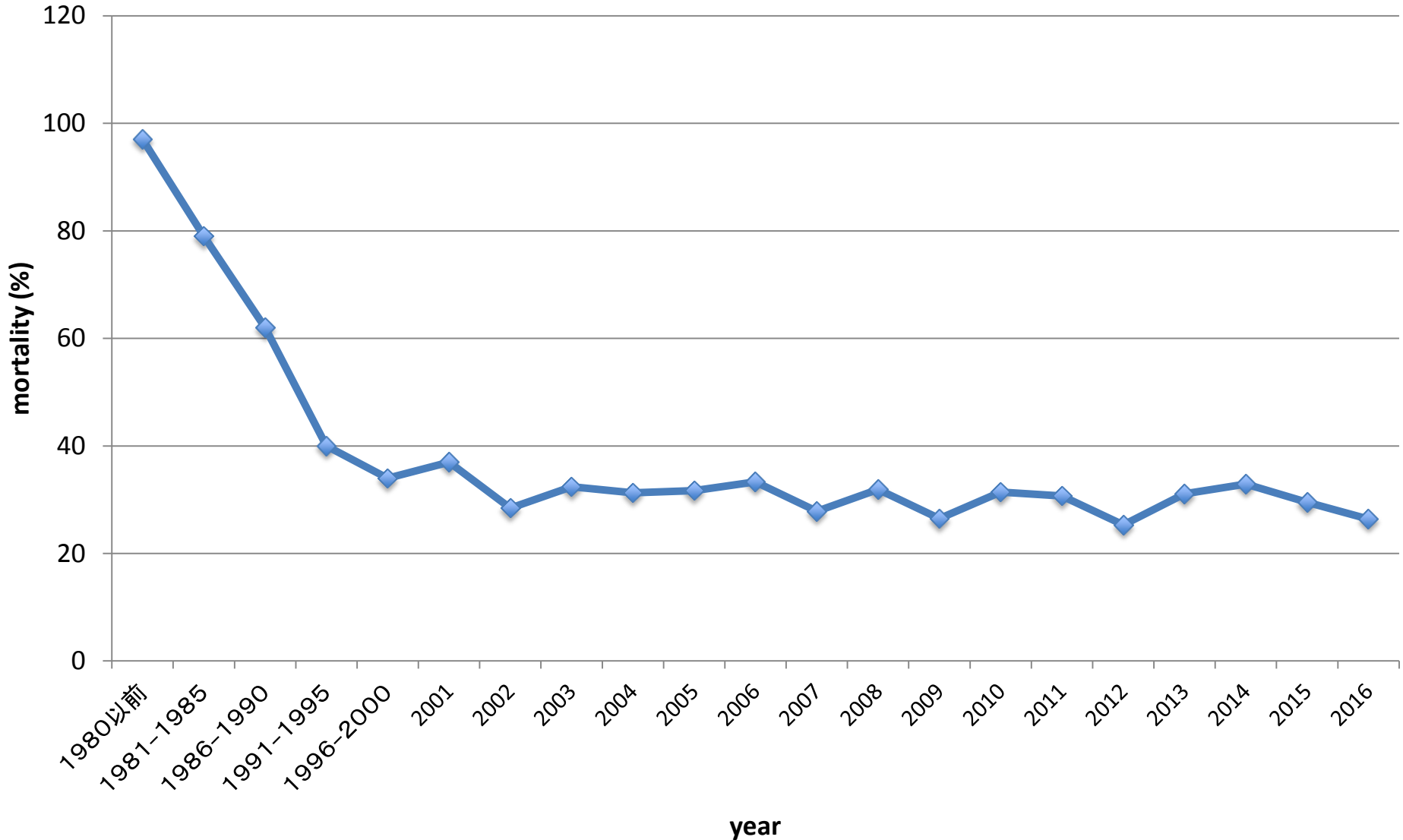
Total No. : 32, death : 4 (mortality : 12.5%)

Results of papillary muscle rupture

alive
death

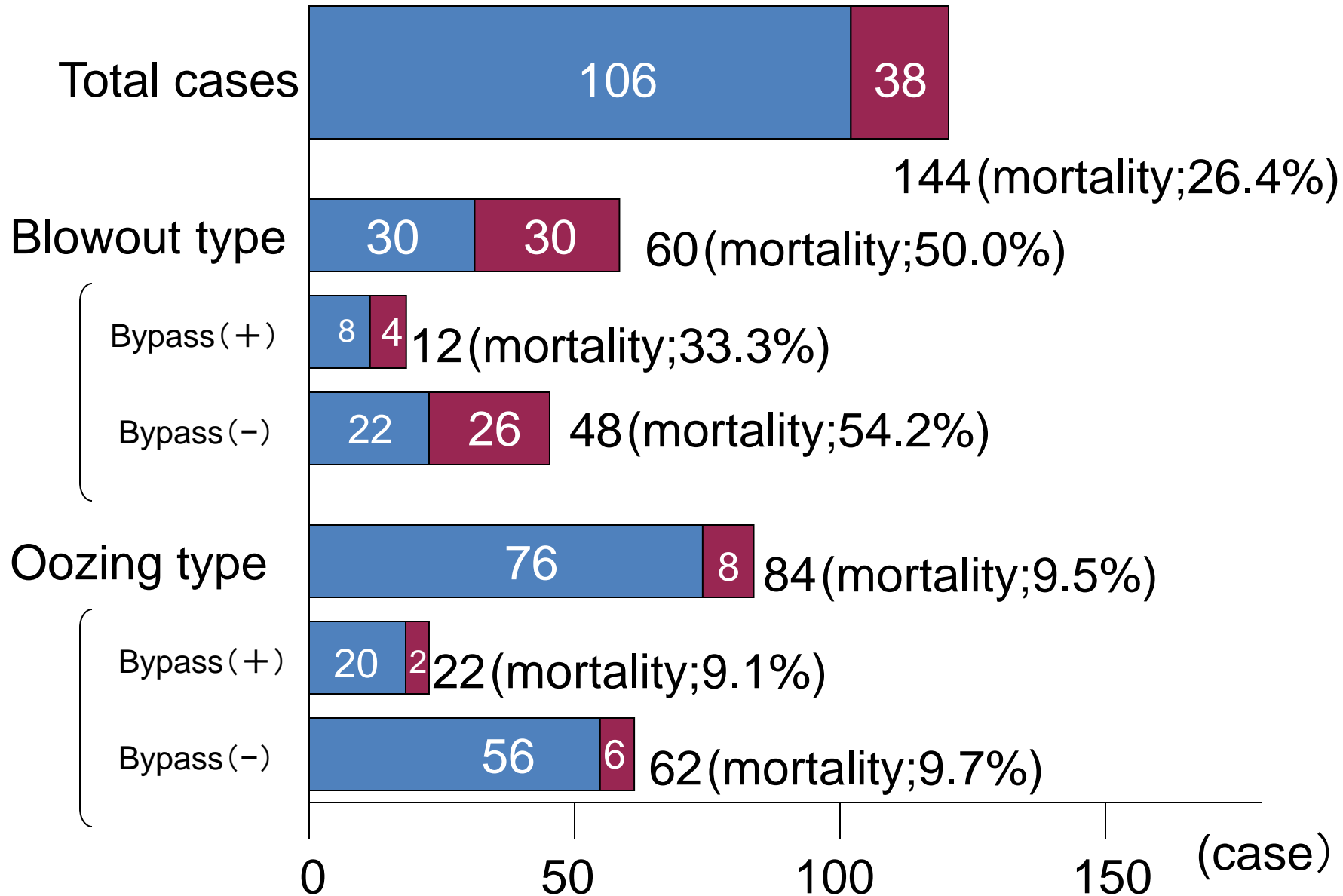
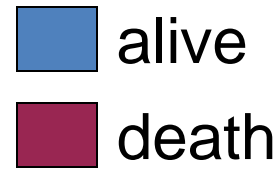


Changes in results of LV free wall rupture

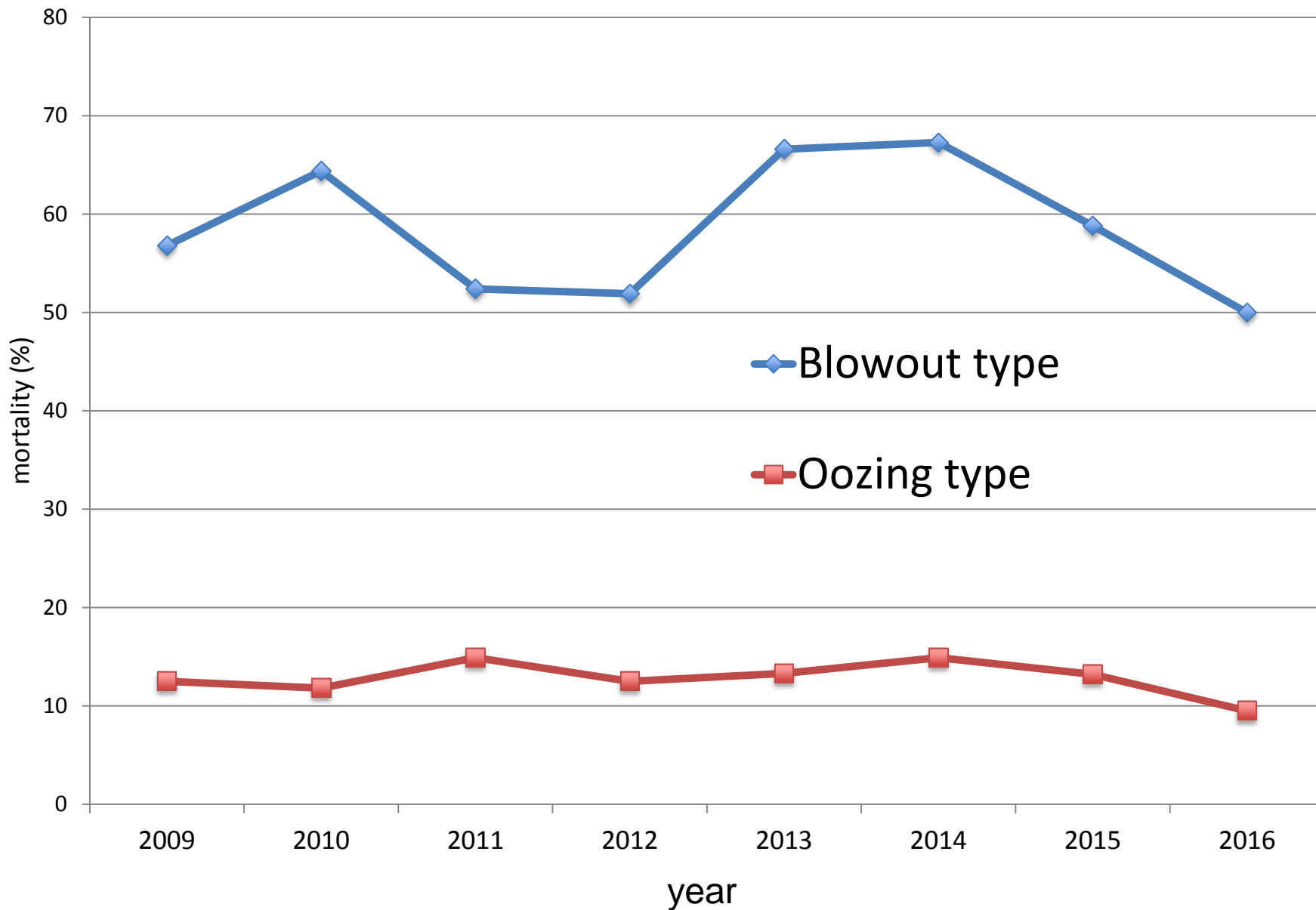


Total No. : 144, death : 38 (mortality : 26.4%)

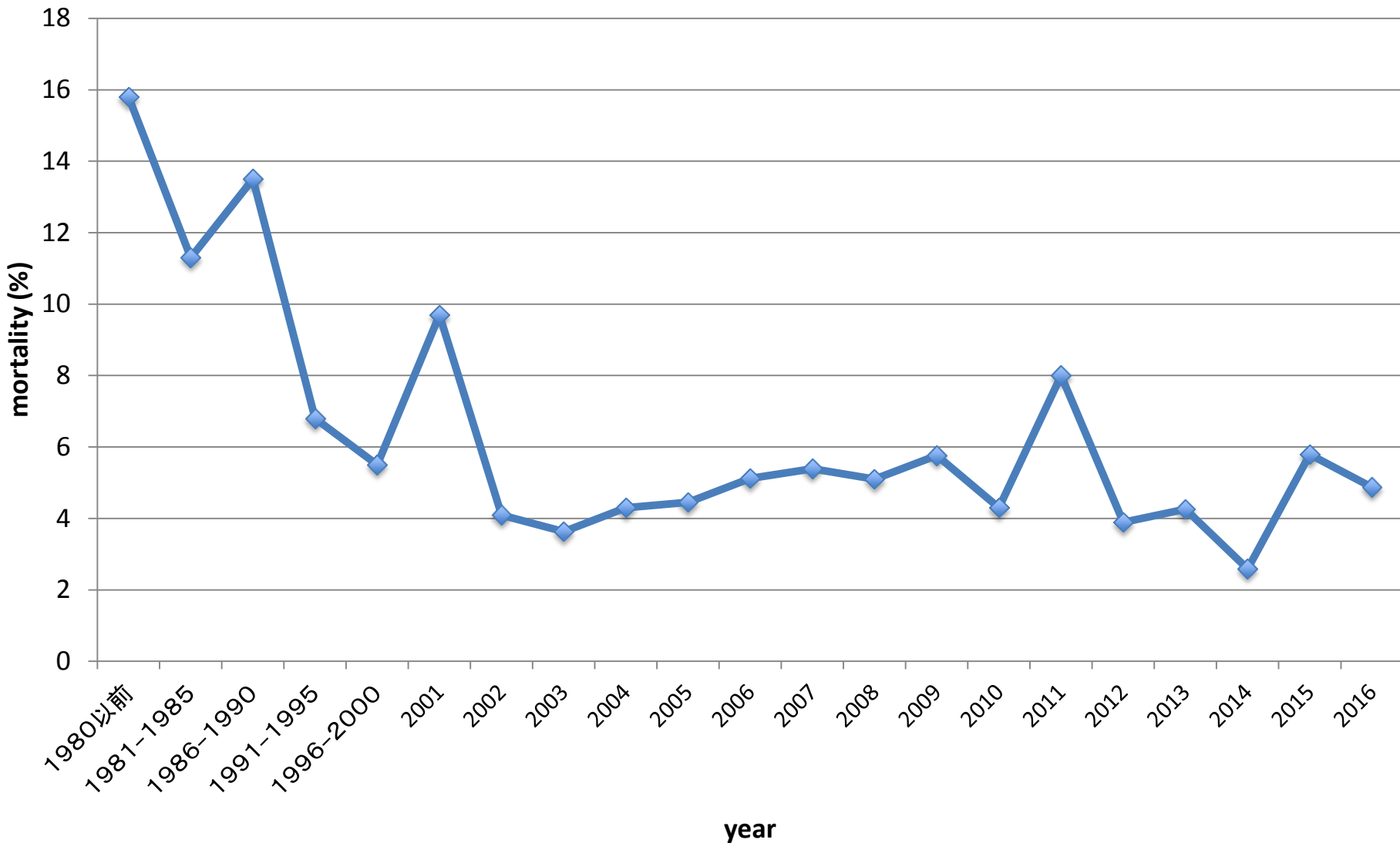
Results of LV free wall rupture



Changes in results of LV free wall rupture according to rupture type

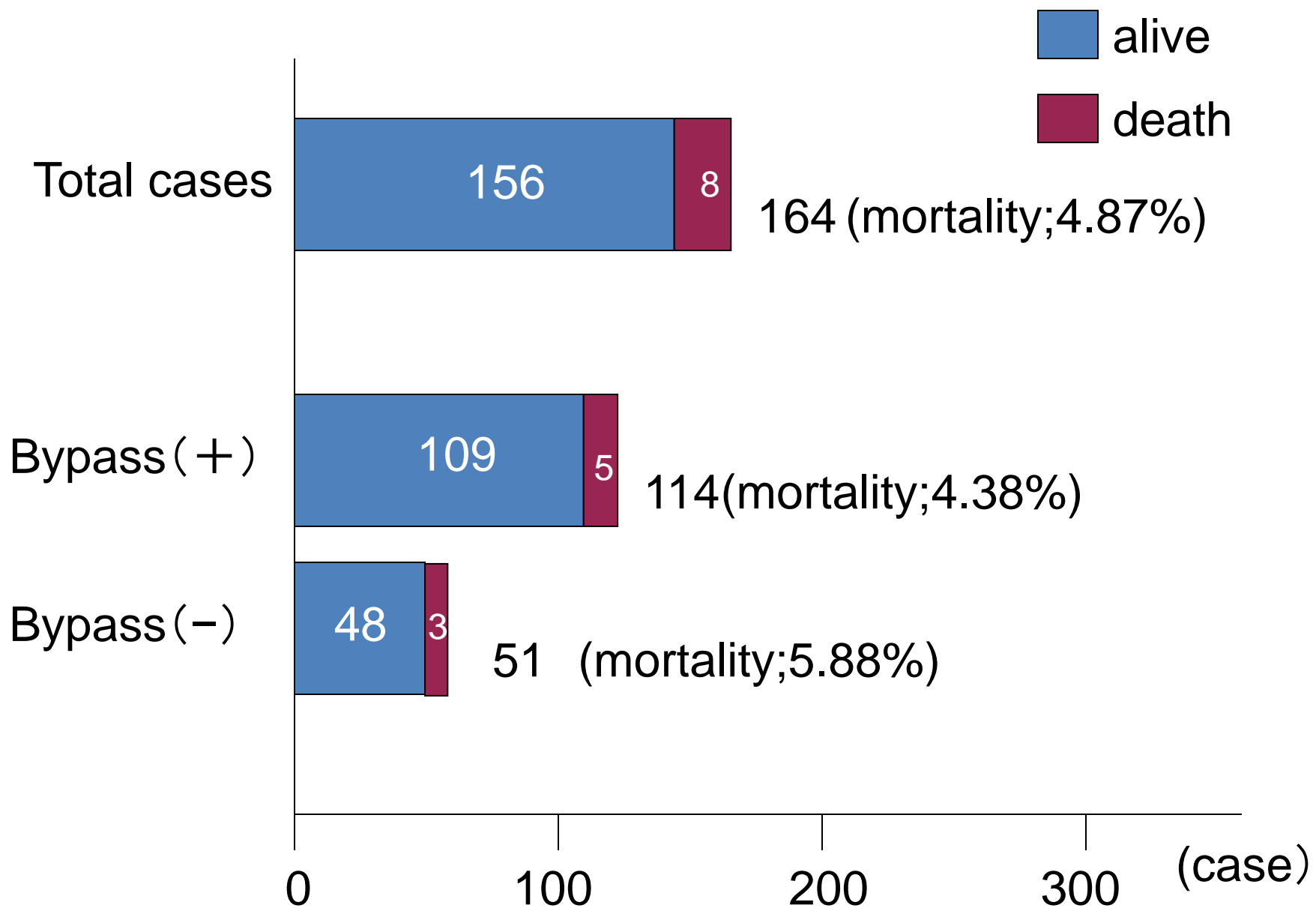


Changes in results of left ventricular aneurysm (LVA)

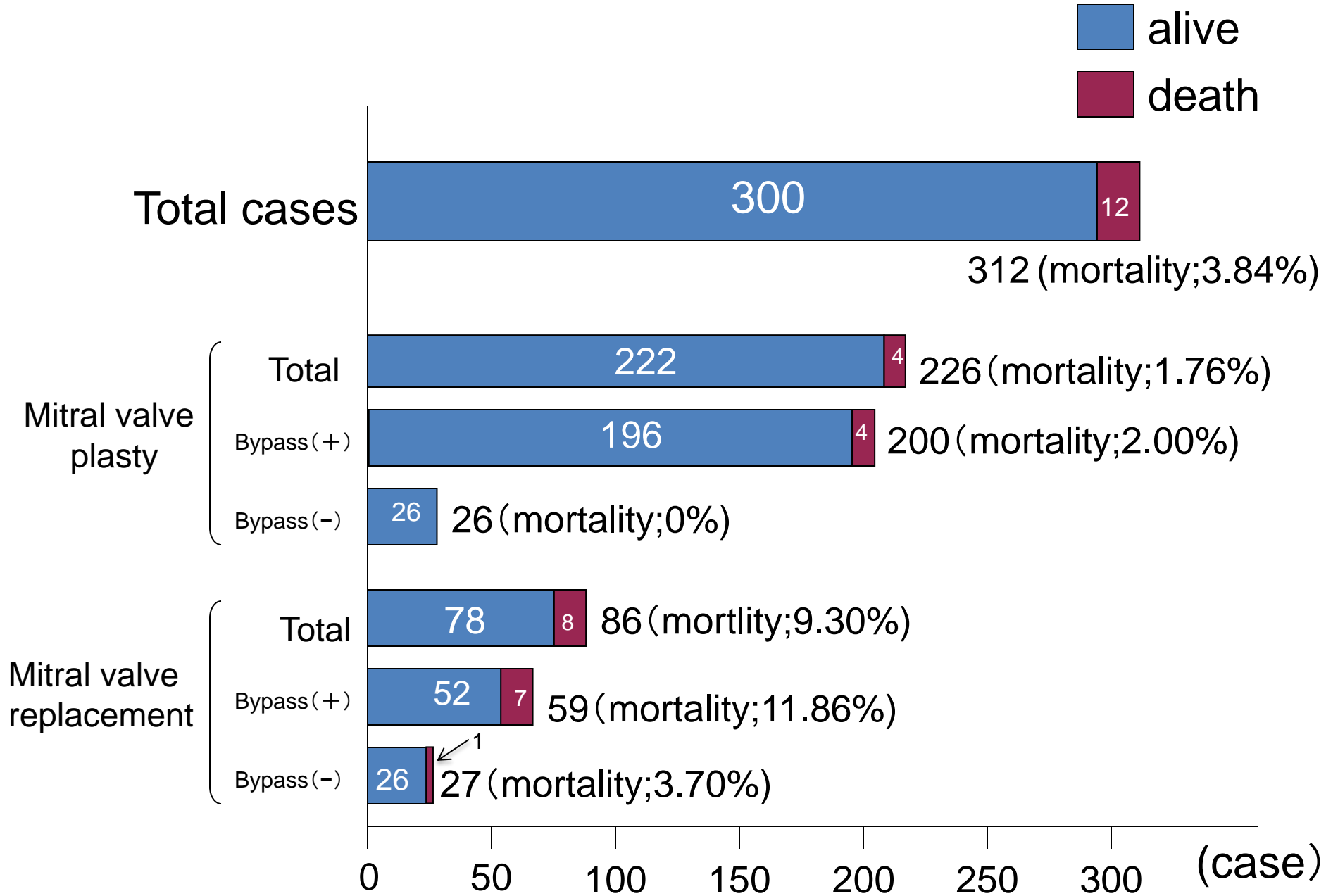


Total No. : 164, death : 8 (mortality : 4.87%)

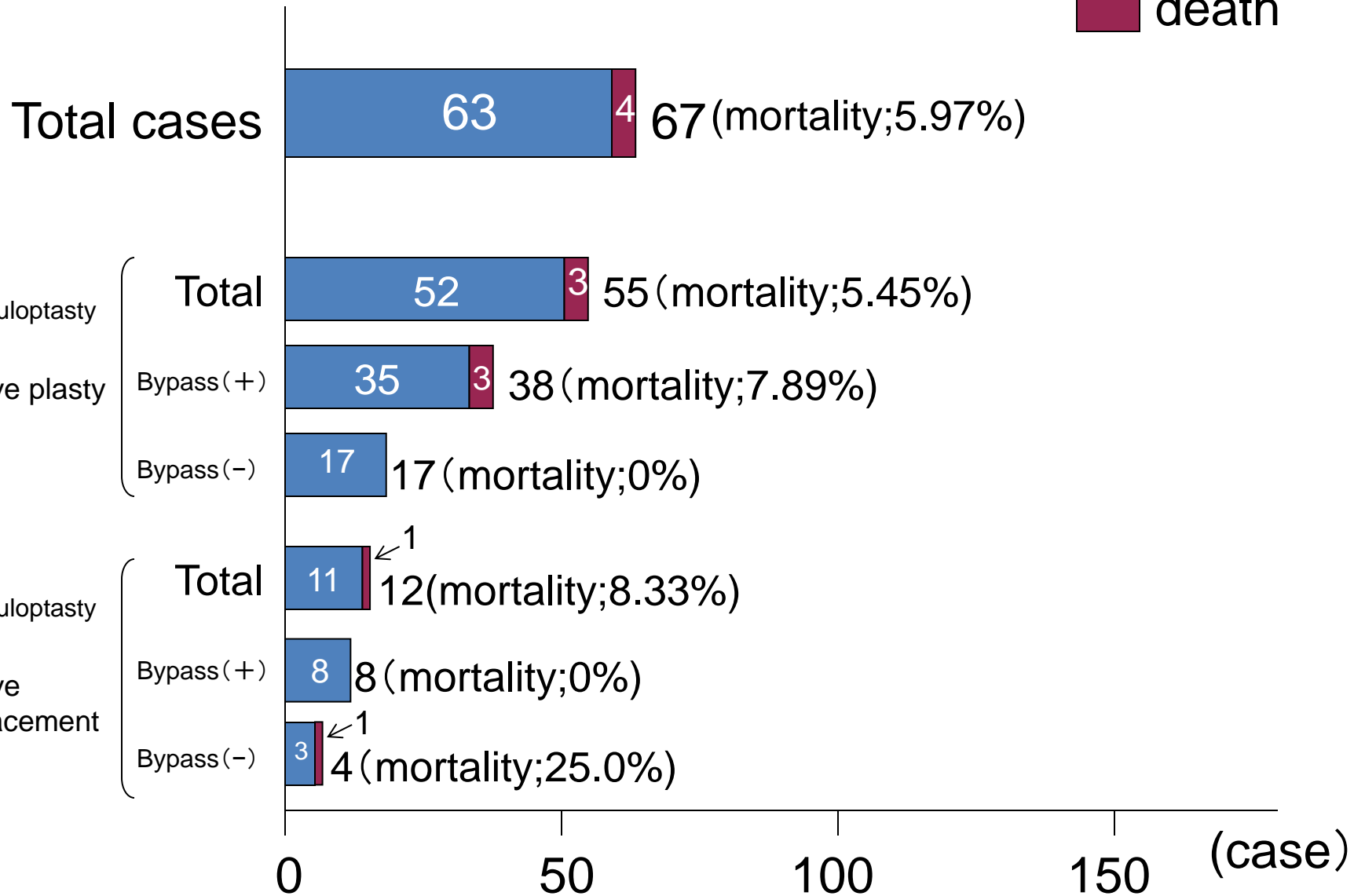
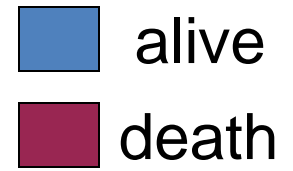
Results of left ventriculoplasty and/or aneurysmectomy



Results of MVR or MVP for ischemic MR



Results of ischemic MR+LVA or ischemic cardiomyopathy



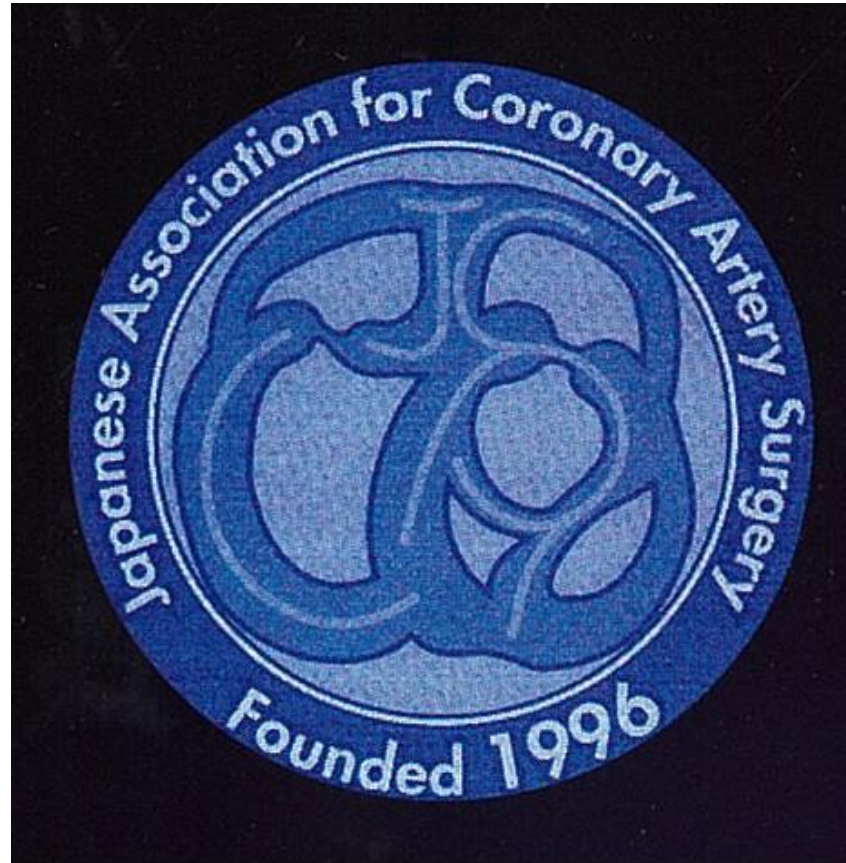
Conclusions (1)

1. The mortality of isolated CABG was 1.66%, that of initial elective CABG was 1.09%, indicating almost same excellent results than those of previous year.
2. Of initial elective CABGs, 62% cases underwent off-pump procedure, showing still high rate. The mortality of off-pump was 0.86%, which was slightly higher than that of previous year, indicating still good results.
3. Off to on-pump conversion rate was 2.3%, and the mortality of those cases was 5.88%, resulting getting worse.
4. The more bypass number, the lower the off-pump rate. However, of all 4 and/more bypass procedures, 57.2% cases were done by off-pump CABG.
5. CABG cases is getting older year by year, more than 70 years old patients rate was 50.9%, more than 80 was 13.5%, showing high rate.

Conclusions (2)

6. Arterial grafts were used in 57.9% of all grafts, while vein grafts were used in 42.1%. The frequency of vein graft usage increased in recent years.
7. The complication rate of central nerve system stroke of all isolated CABG was 1.27%. This rate of off-pump CABG showed significantly lower than those of on-pump (beating) and off to on-pump conversion procedures, resulting OPCAG can avoid this complication.
8. After PCI complications, emergency operation underwent in 0.92% of all isolated CABG within 24 hours. The mortality of those cases was 10.2%, showing still high rate.
9. The results of complications for acute and old myocardial infarction improved than those of previous year. However, the mortality of post-inferior VSP and blowout type free wall rupture, were high rate, indicating worse prognosis.

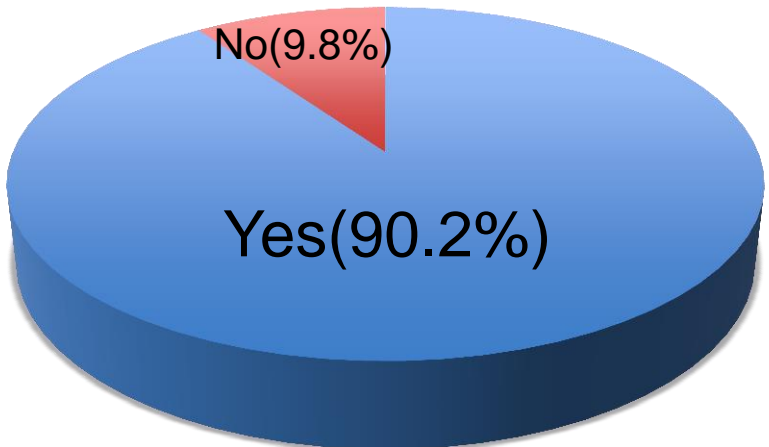
Special survey of intra-operative graft flow measurement for CABG



The Survey Committee of Japanese Association for Coronary Artery Surgery (JACAS)

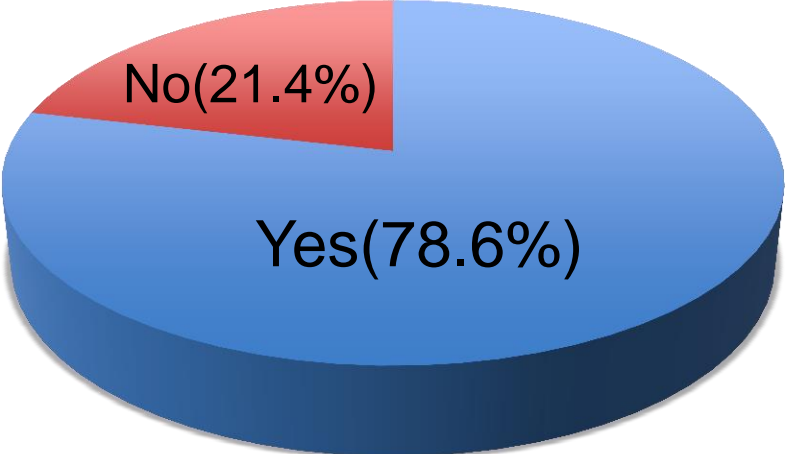
Question 1

; Do you know that an intra-operative graft flow measurement fee can charge as payment for medical services ?



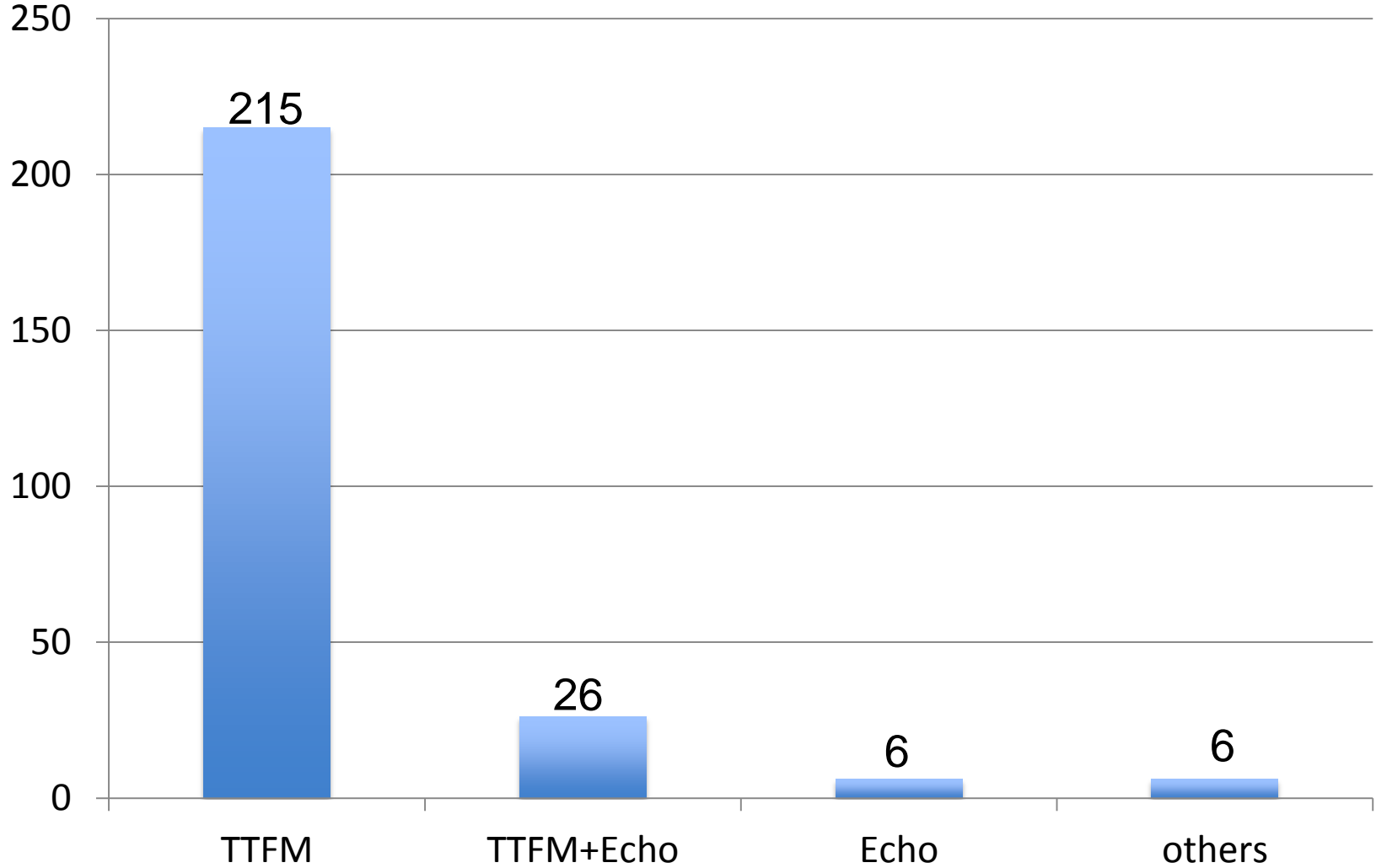
Question 2

; Do you charge this fee, actually ?



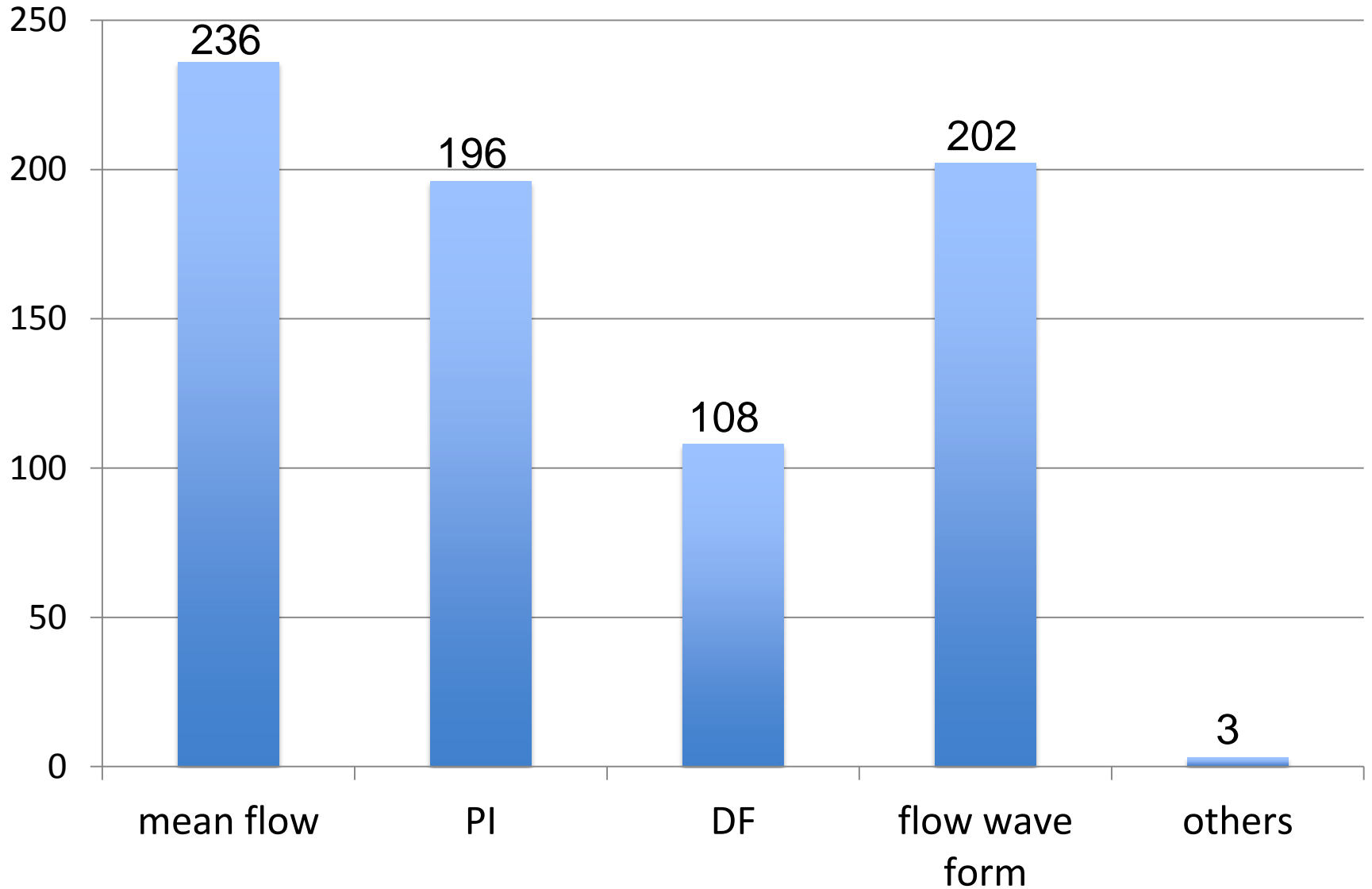
Question 3

;What kind of equipment do you use for intra-operative graft flow measurement ?



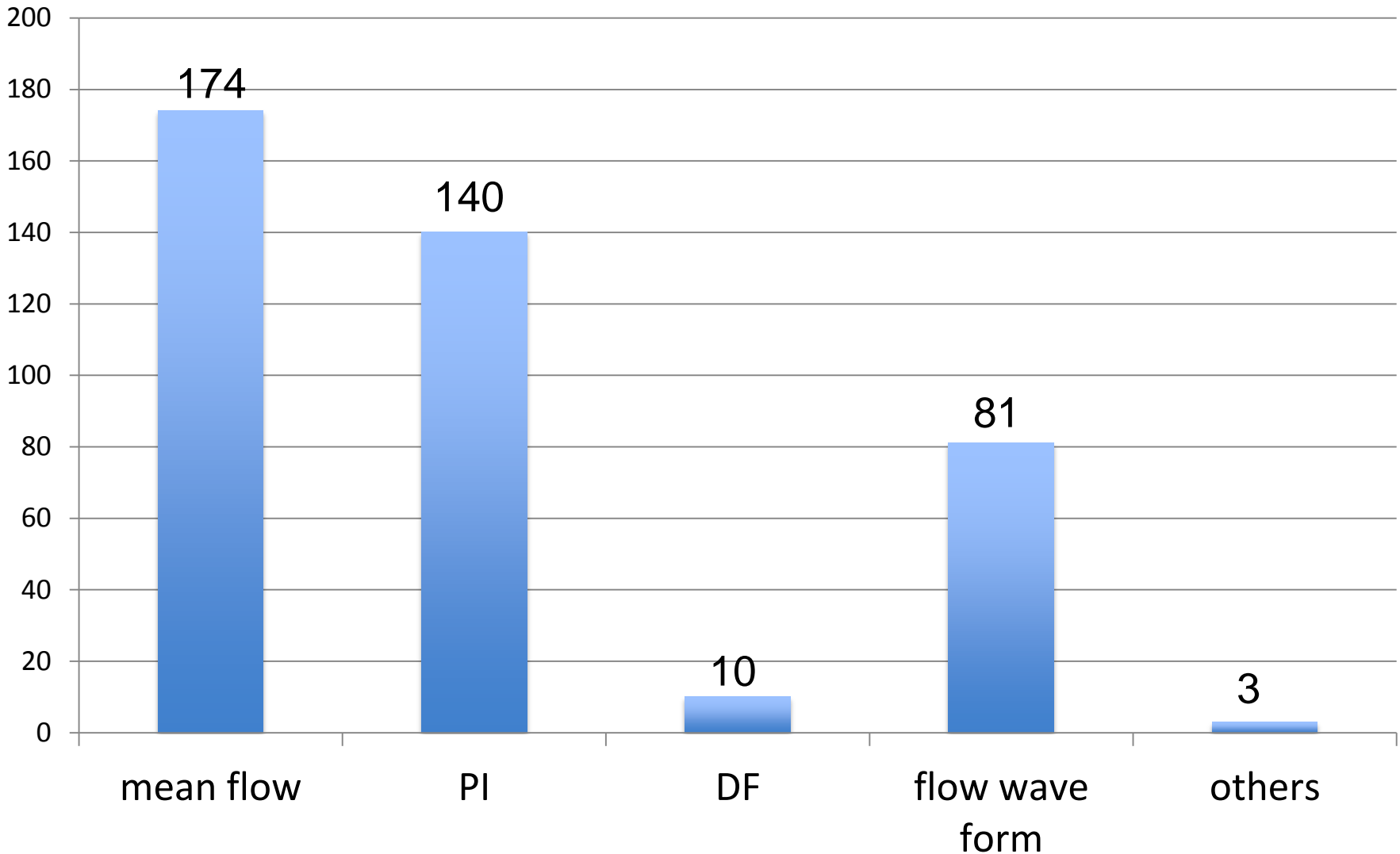
Question 4

; What kind of parameters do you measure for intra-operative graft flow measurement ?



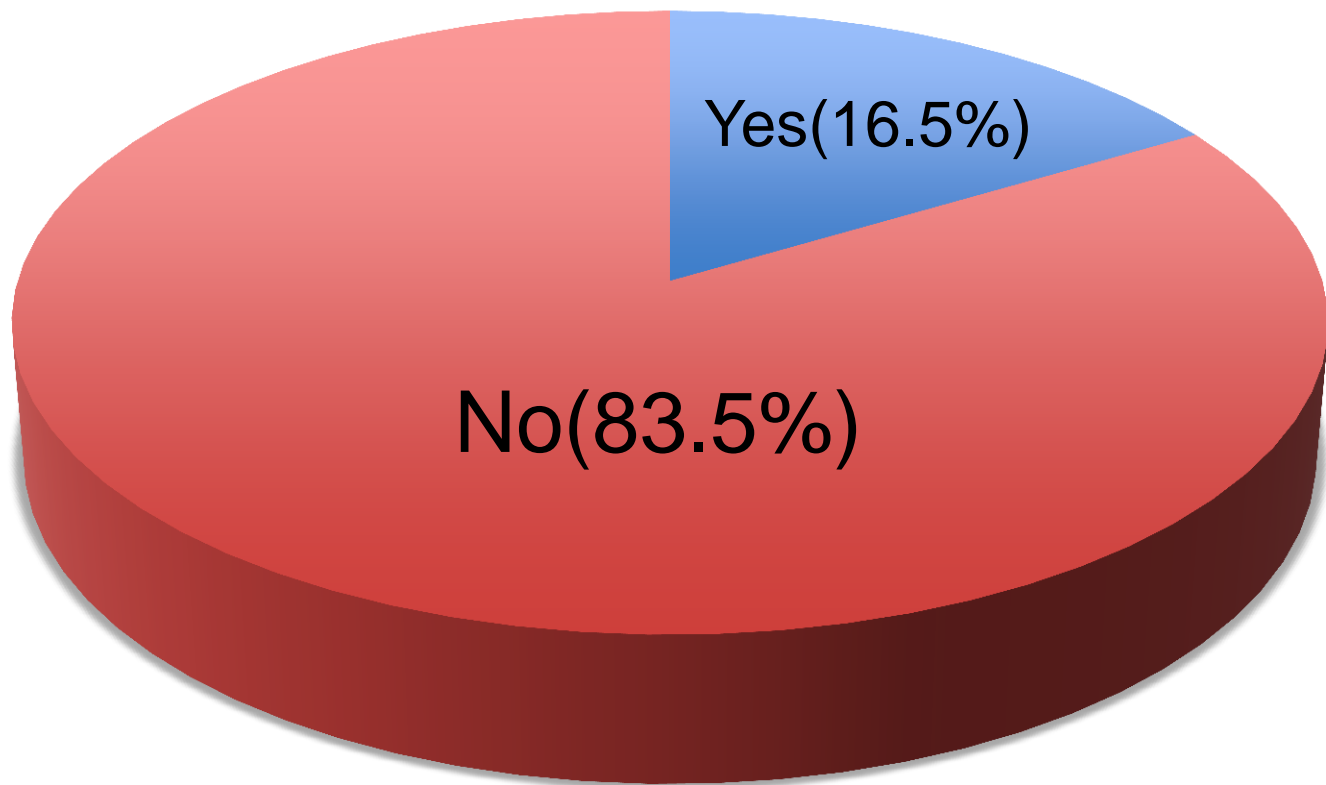
Question 5

; What kind of parameters do you emphasize for intra-operative graft flow measurement ?



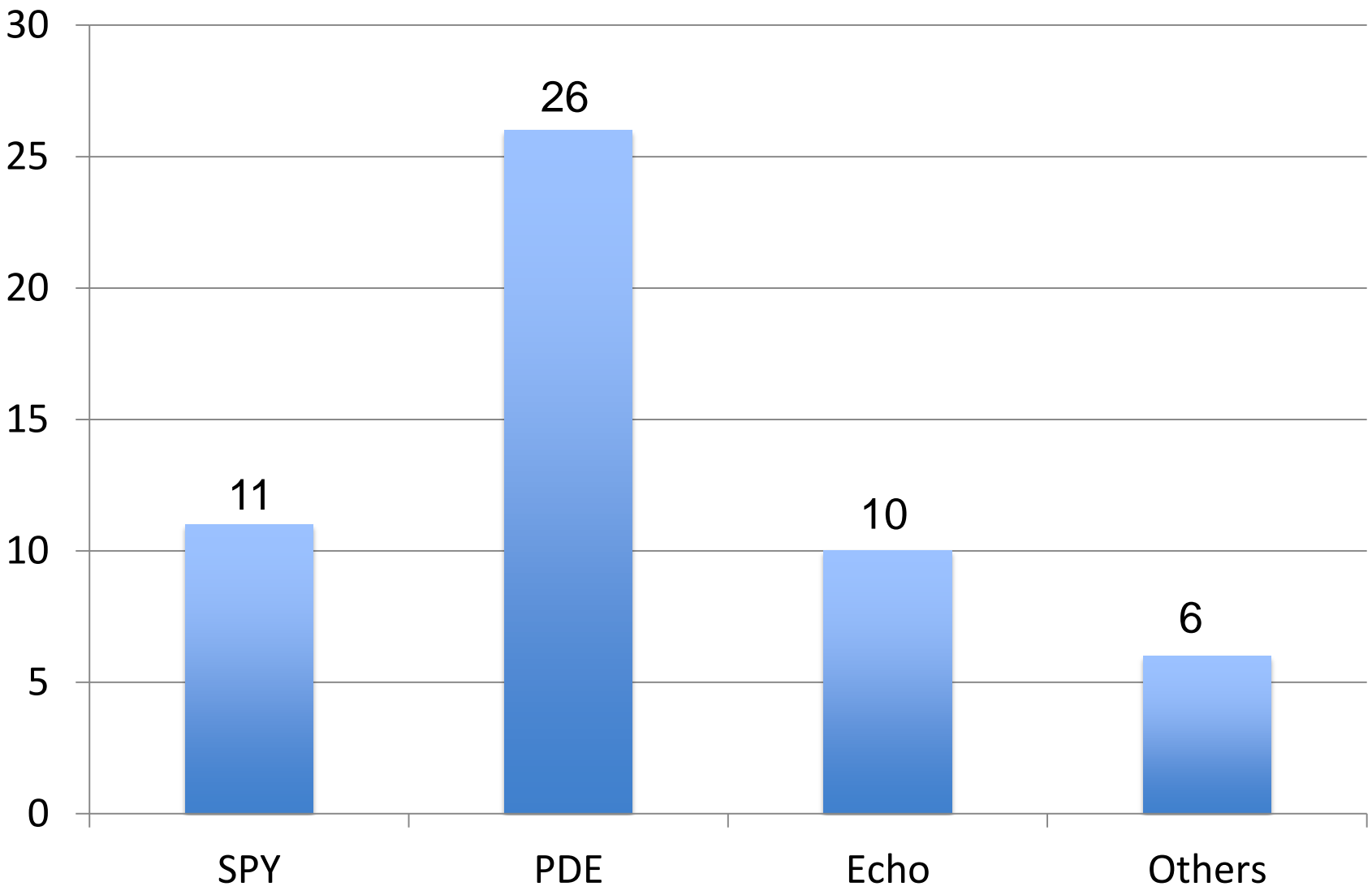
Question 6

:Do you use any diagnostic image equipment except graft flow measurement ?



Question 7

:What kind of diagnostic image equipment do you use ?



Question 8

:How many grafts did you revise to perform CABG due to abnormal graft flow measurement, in last year ?

Answer; 347

Question 9

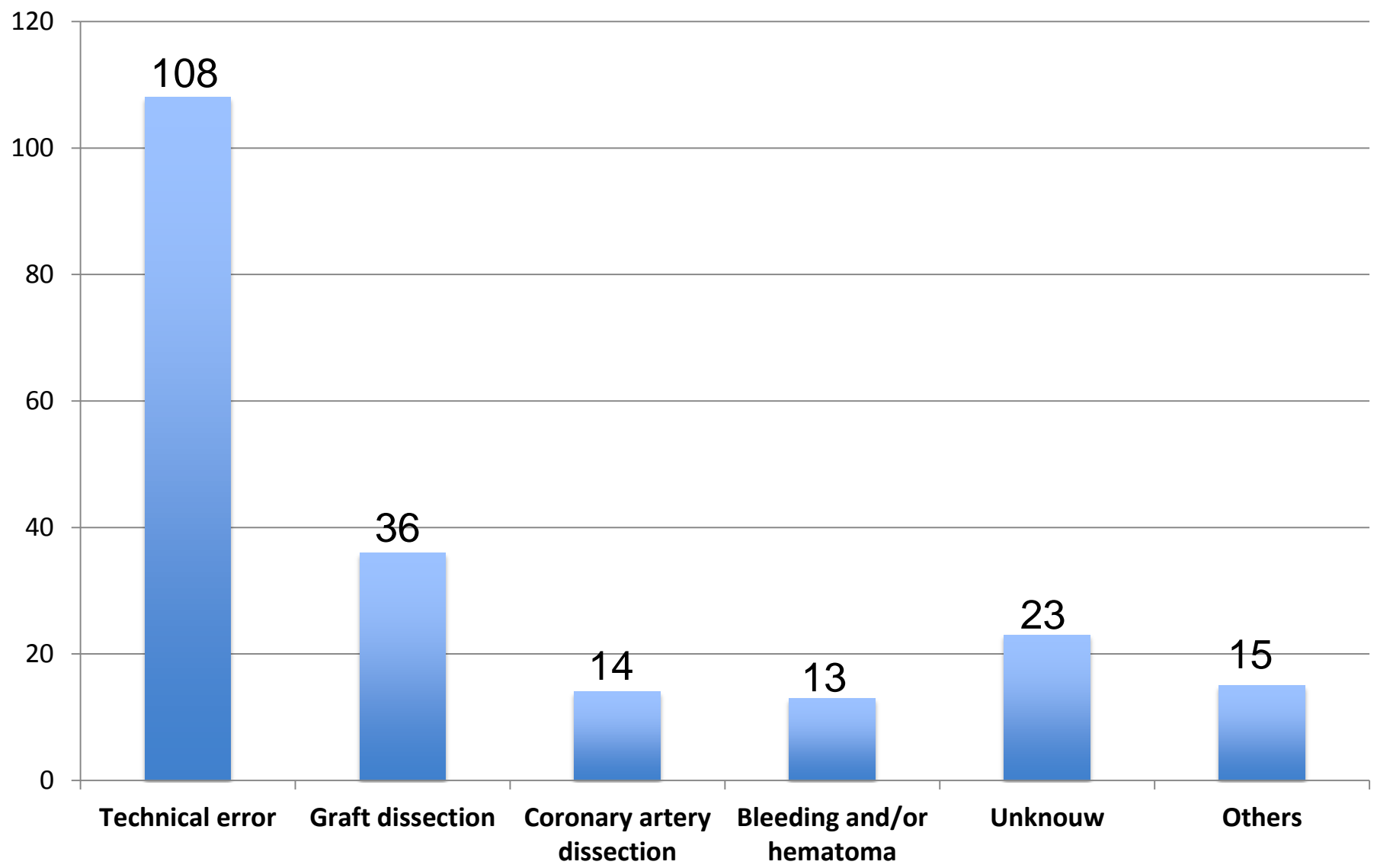
:How many grafts did you perform CABG, in last year ?

Answer; 29,008

Revision rate;1.2%

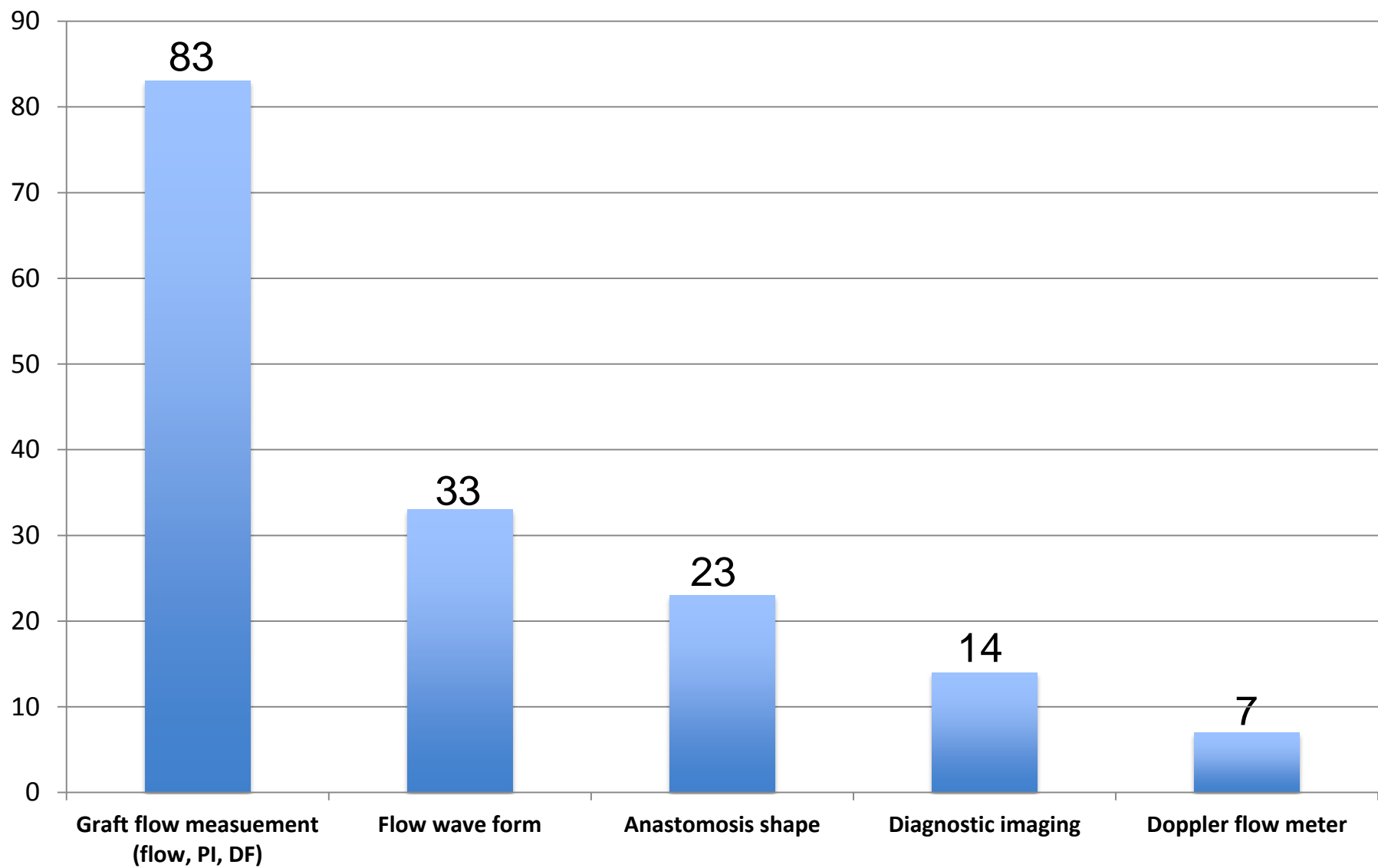
Question 10

:What were the reasons for revision to perform CABG ?



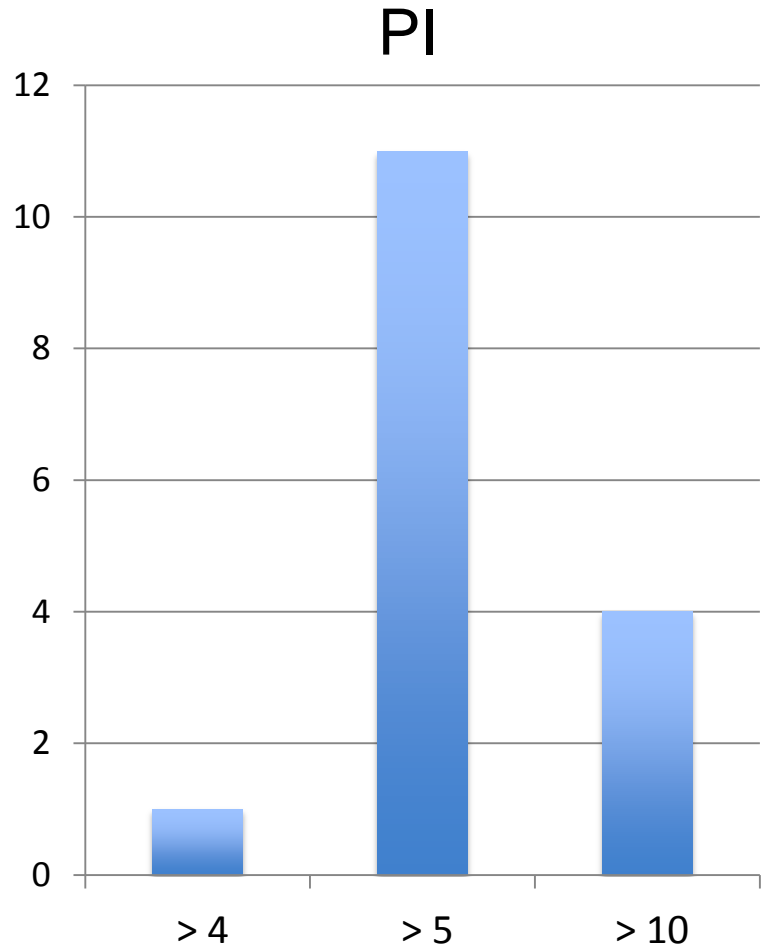
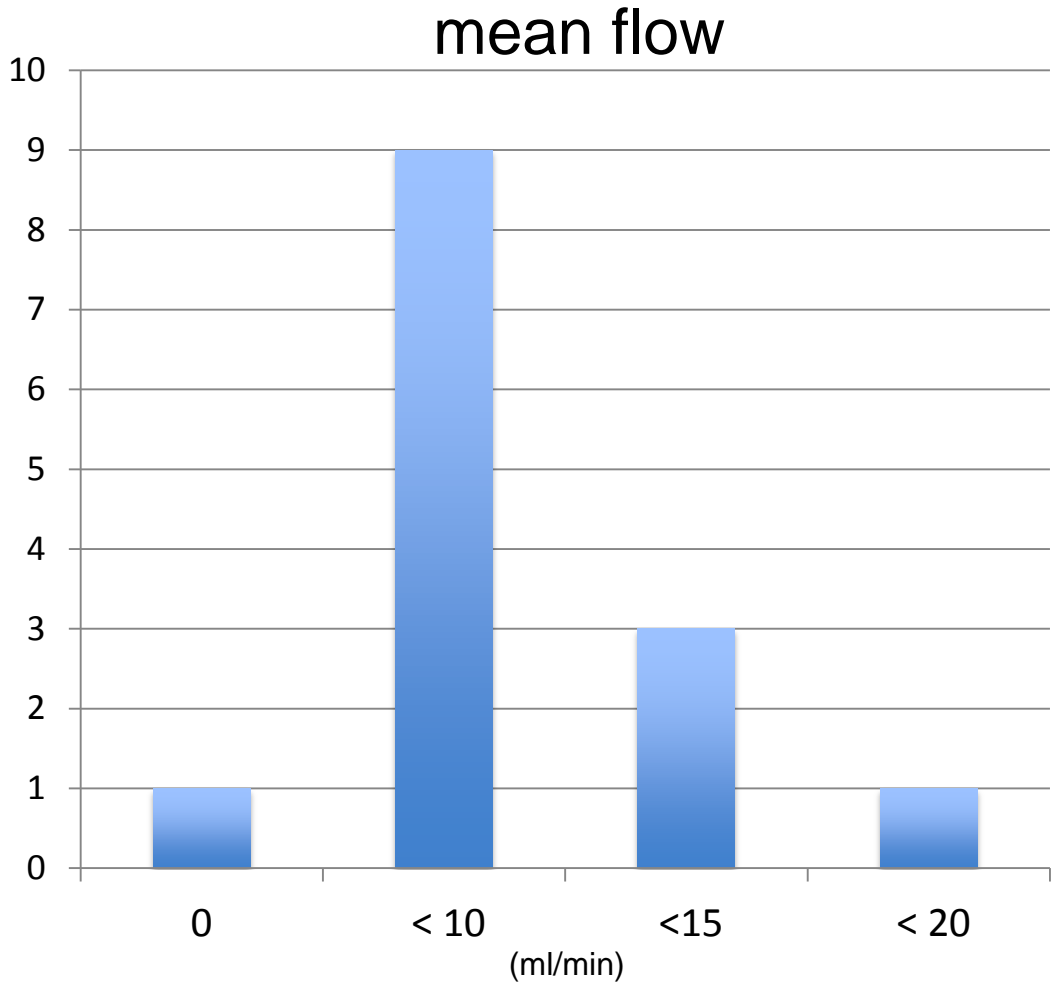
Question 11(1)

:Do you have any standard to revise to perform CABG ?



Question 11(2)

:Do you have any standard to revise to perform to CABG ?
(detail of graft flow measurement standard)



DF < 60% : 2

Question 12

:Do you think that an intra-operative flow measurement is useful to prevent graft failure for CABG?

