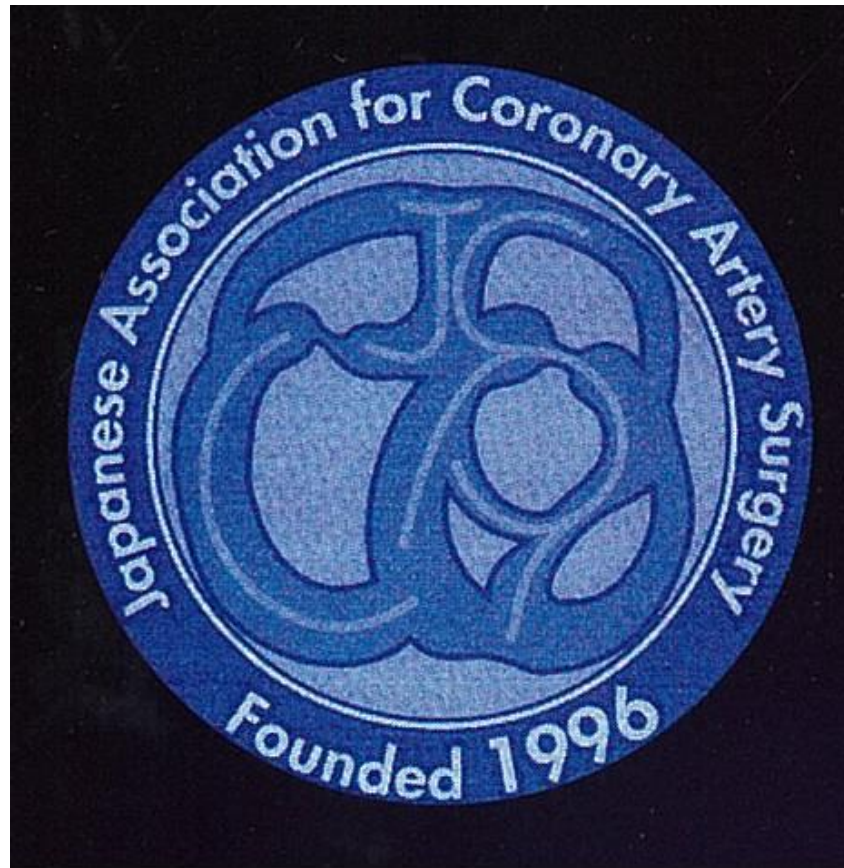


Coronary artery surgery results In 2017



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

Coronary artery bypass grafting (CABG), 2017

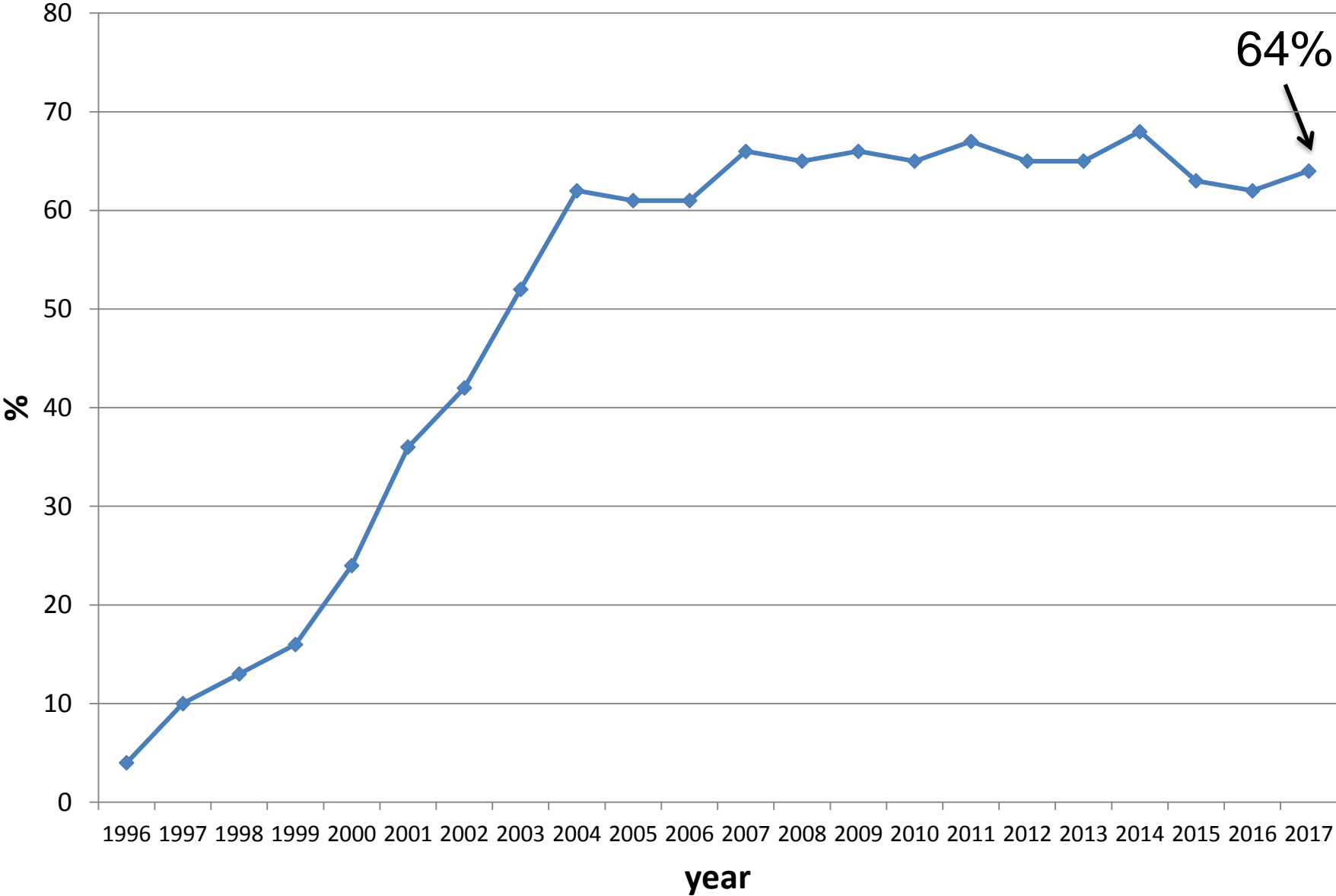
Total cases	: 12,584
Isolated CABG	: 8,497 (68%)(previous year:67%)
Concomitant CABG	: 4,087 (32%)(previous year:33%)

Isolated CABG

Initial elective : 7,144
Off-pump : 4,562
On-pump : 2,582
(Off-pump rate : 64%)
(previous year : 62%)

Except initial elective :1,353
Off-pump : 646
On-pump : 707
(Off-pump rate : 48%)
(previous year : 51%)

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



Initial elective CABG :7,144(100%)

On-pump (arrest) :1,516(21.2%)

On-pump (beating) :1,066(14.9%)

Off-pump (total) :4,562(63.9%)

Off-pump (complete) :4,431

On-pump (conversion) : 131

Off-pump complete rate :97.1%

Off to on-pump conversion rate :2.9%
(previous year:2.3%)

Mortality of isolated CABG :1.52%
(previous year:1.66%)

Mortality of initial elective CABG:0.81%
(previous year:1.09%)

On-pump (arrest) :0.73%

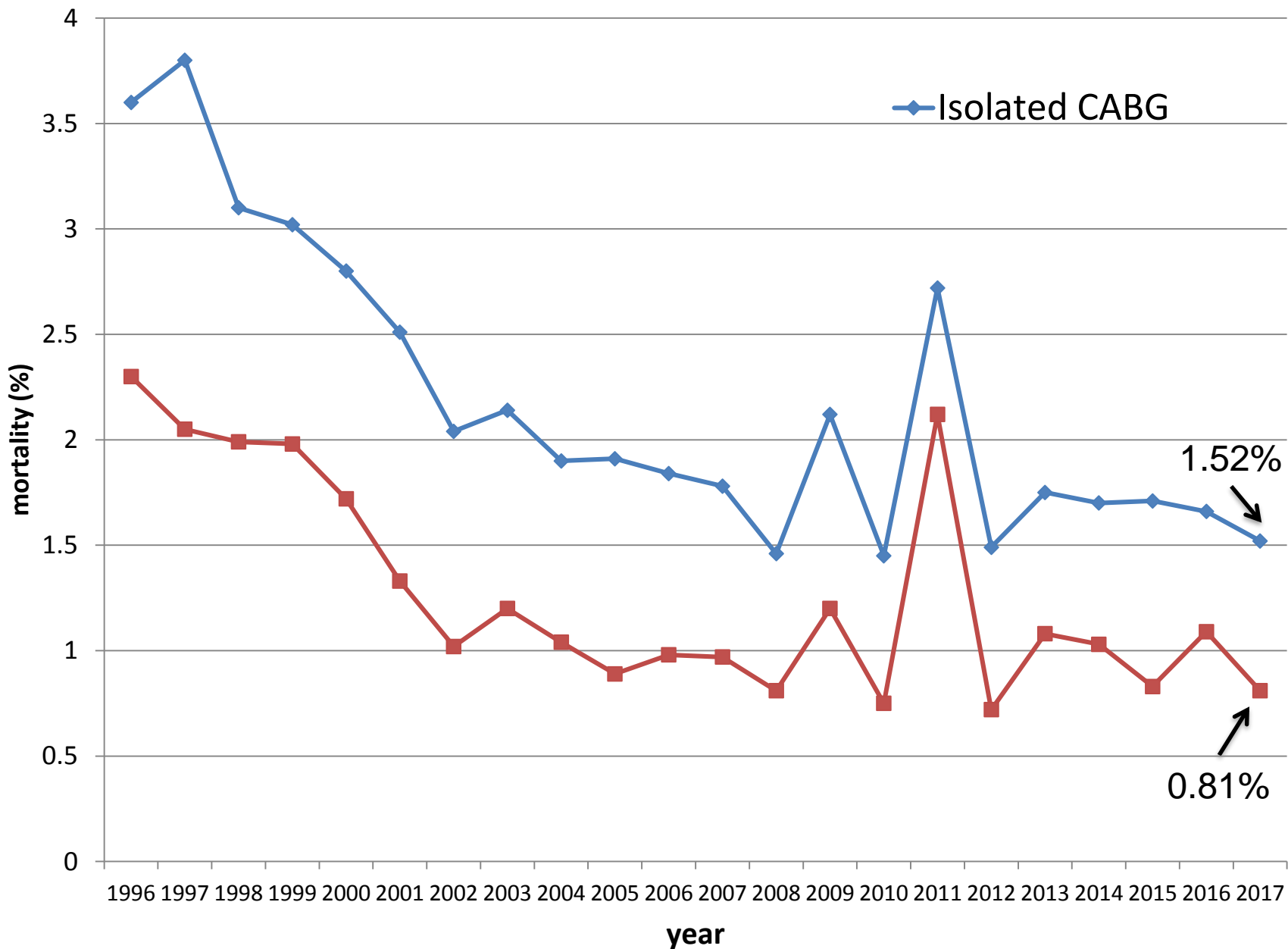
On-pump (beating):1.59%

Off-pump (total) :0.65%

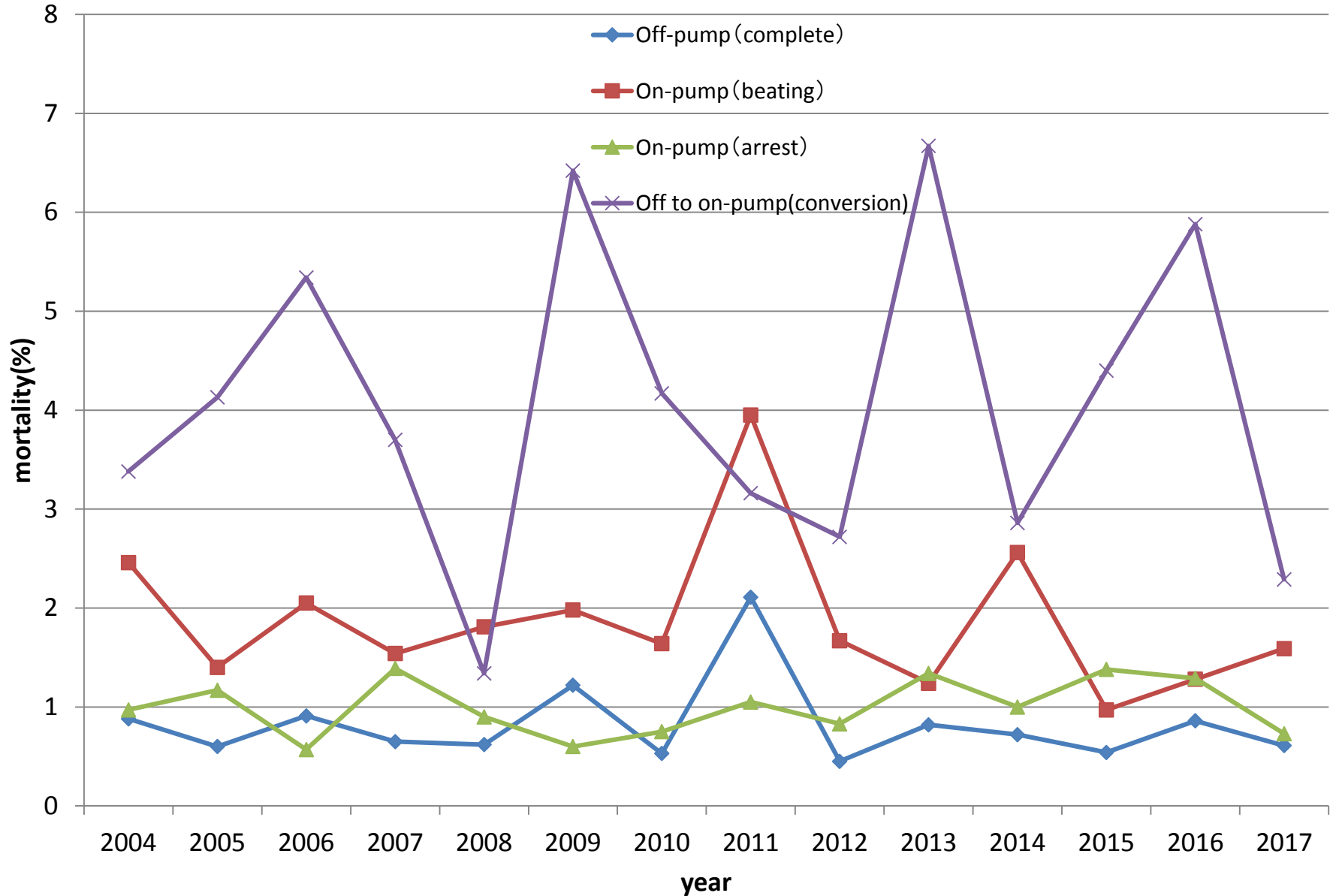
Off-pump (complete):0.61%
(previous year:0.86%)

On-pump (conversion):2.29%
(previous year:5.88%)

Changes of mortality (Isolated and initial elective CABG)

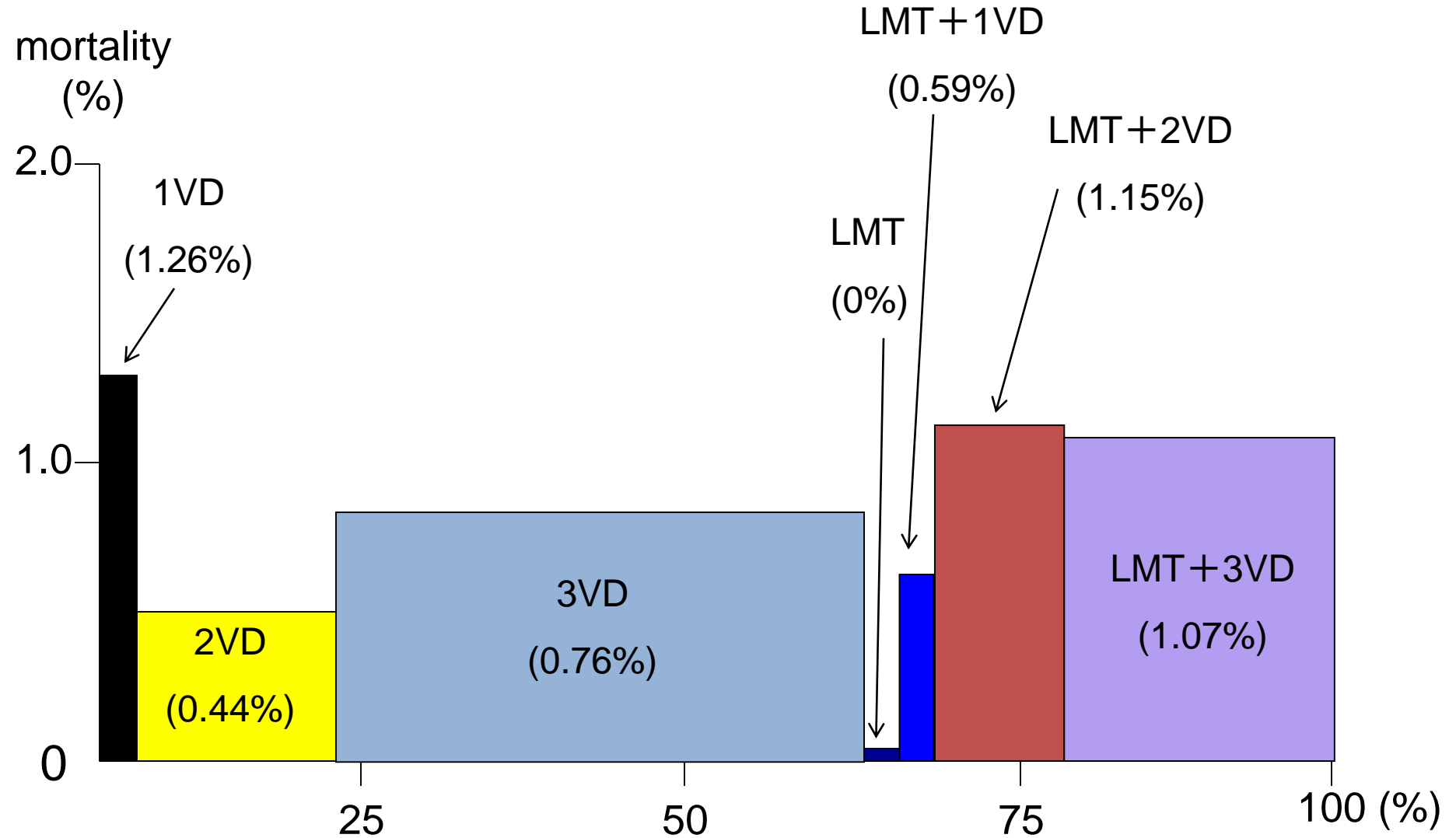


Changes of mortality for procedures (Initial elective CABG)



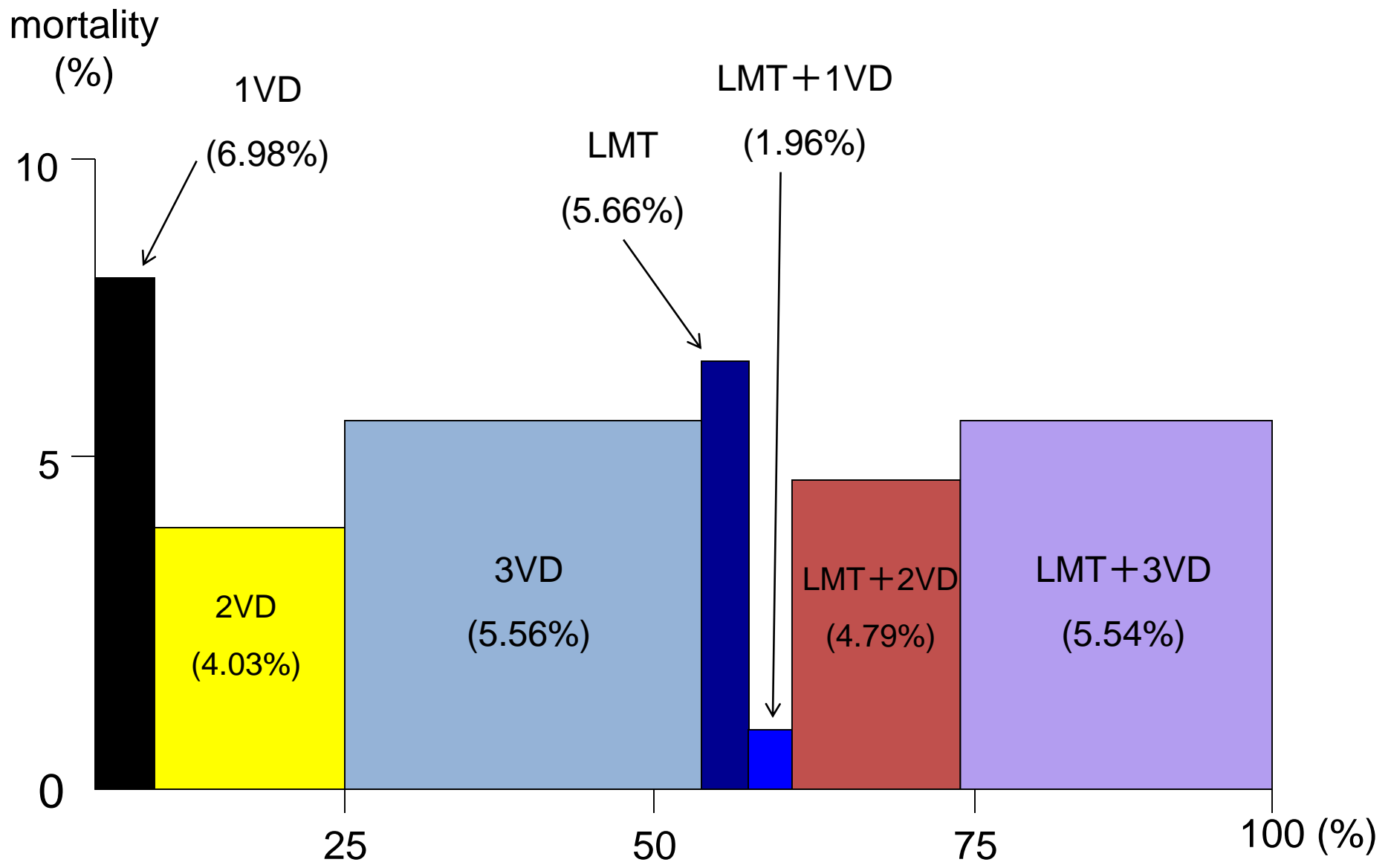
Mortality according to number of diseased vessels

(Initial elective CABG: 7,144, mortality: 0.81%)



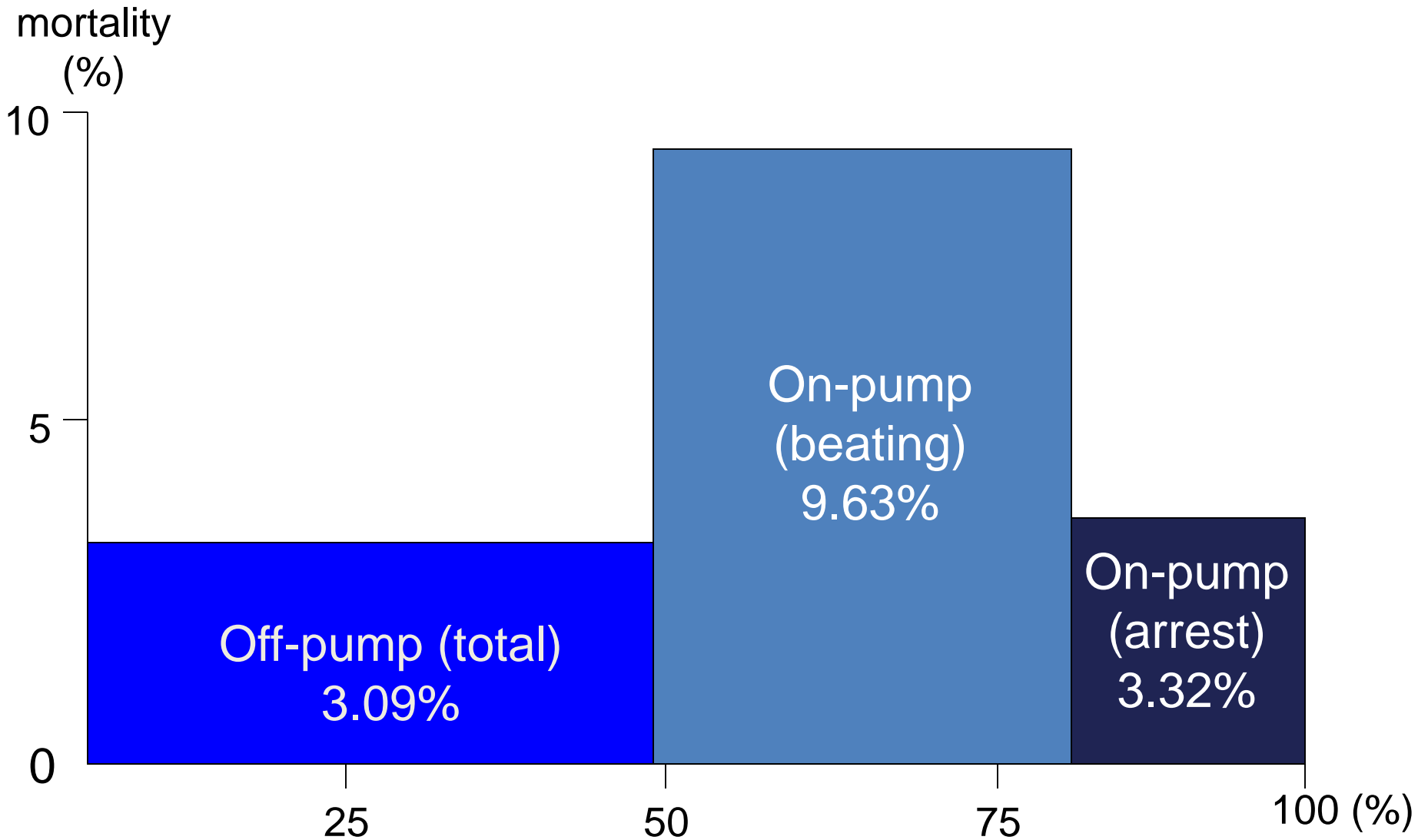
Mortality according to number of diseased vessels

(Except initial elective CABG: 1,353, mortality:5.25%)

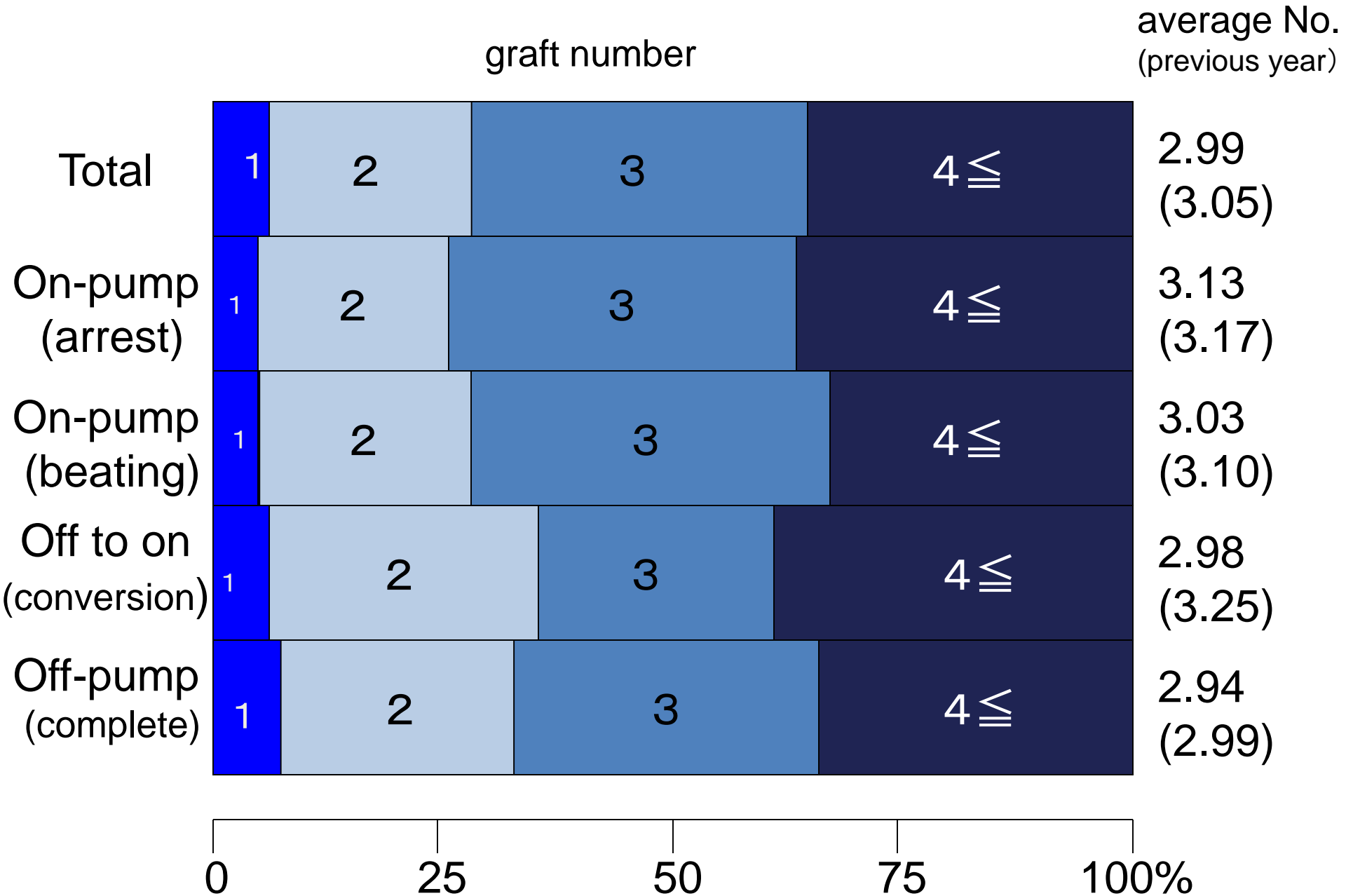


Mortality according to surgical procedures

(Except initial elective CABG: 1,353, mortality:5.25%)



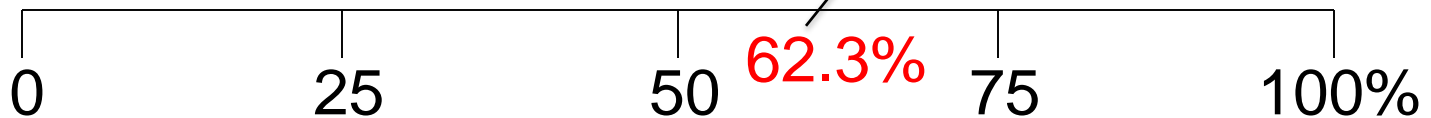
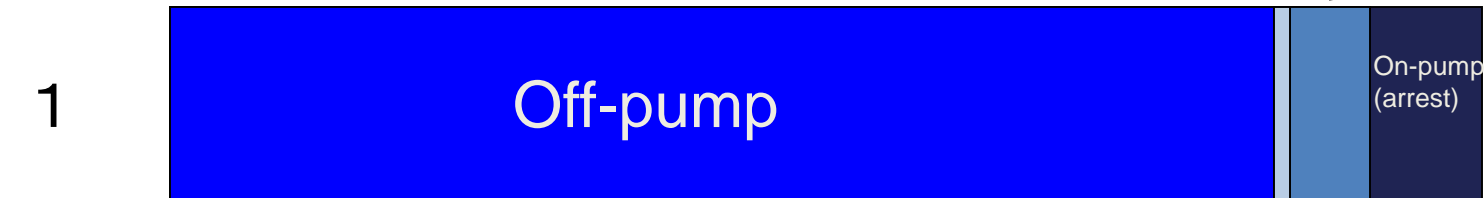
Graft number according to procedures (Initial elective CABG)



Procedure according to graft number (Initial elective CABG)

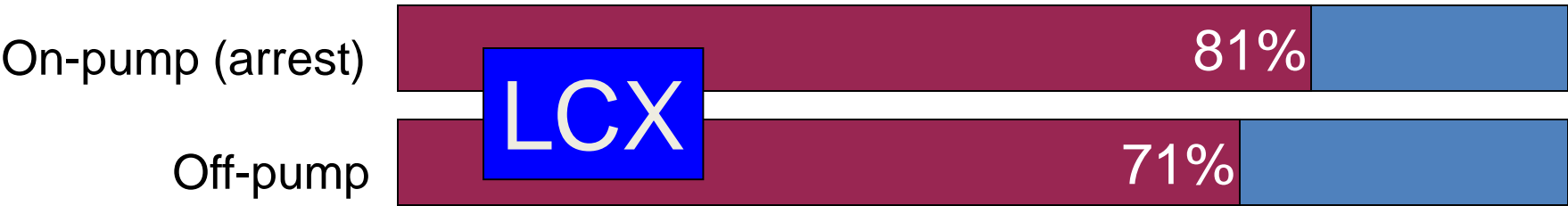
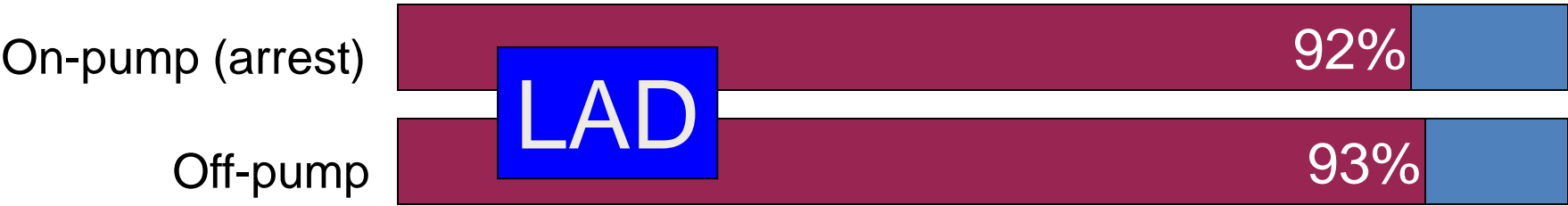
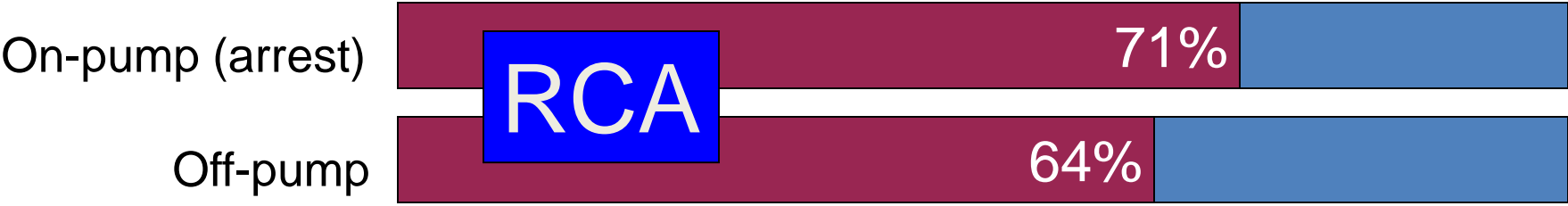
Off to on-pump (conversion) On-pump (beating)

graft number



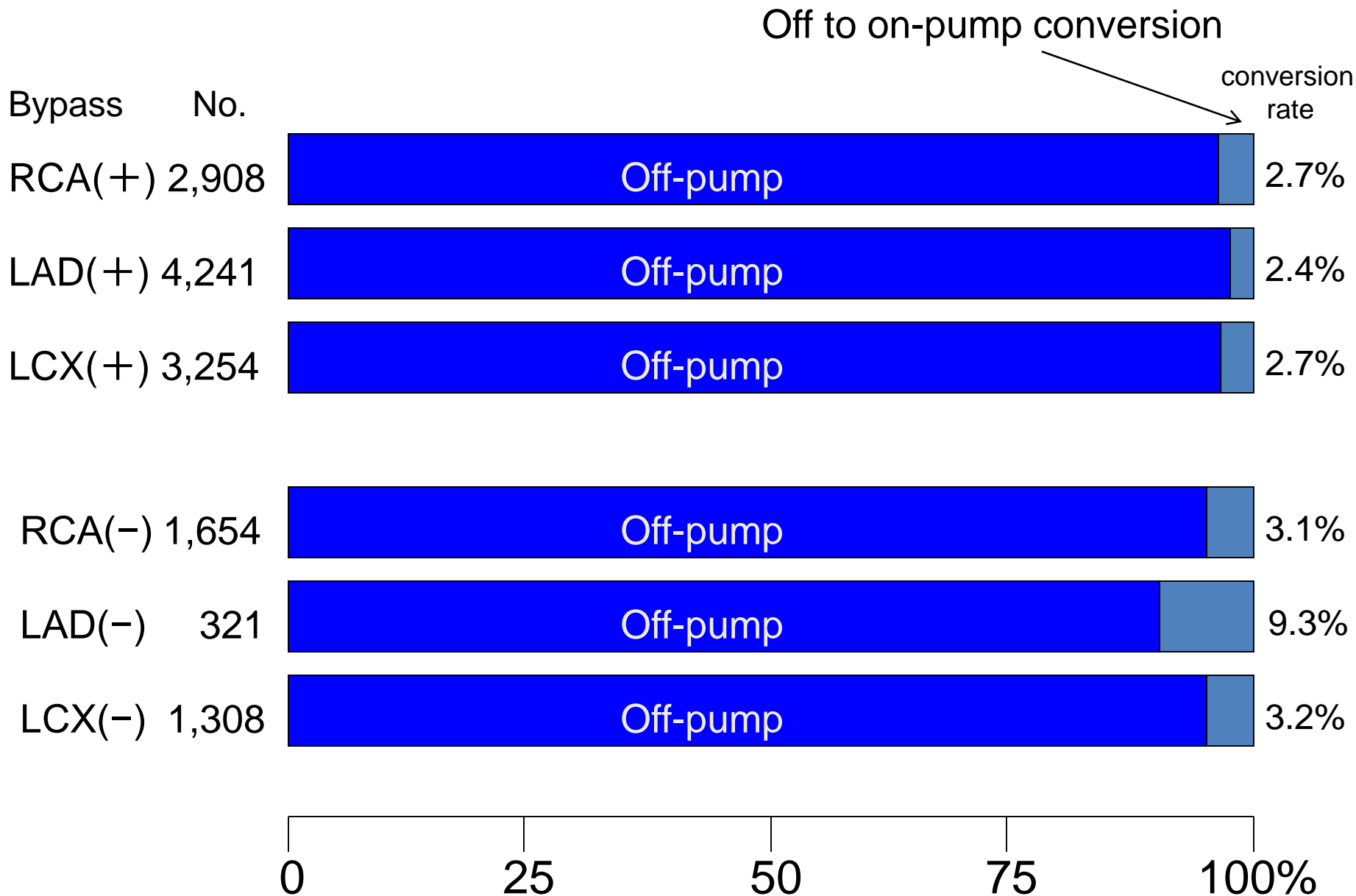
On-pump (arrest) vs. off-pump (Initial elective CABG)

bypass +
bypass -

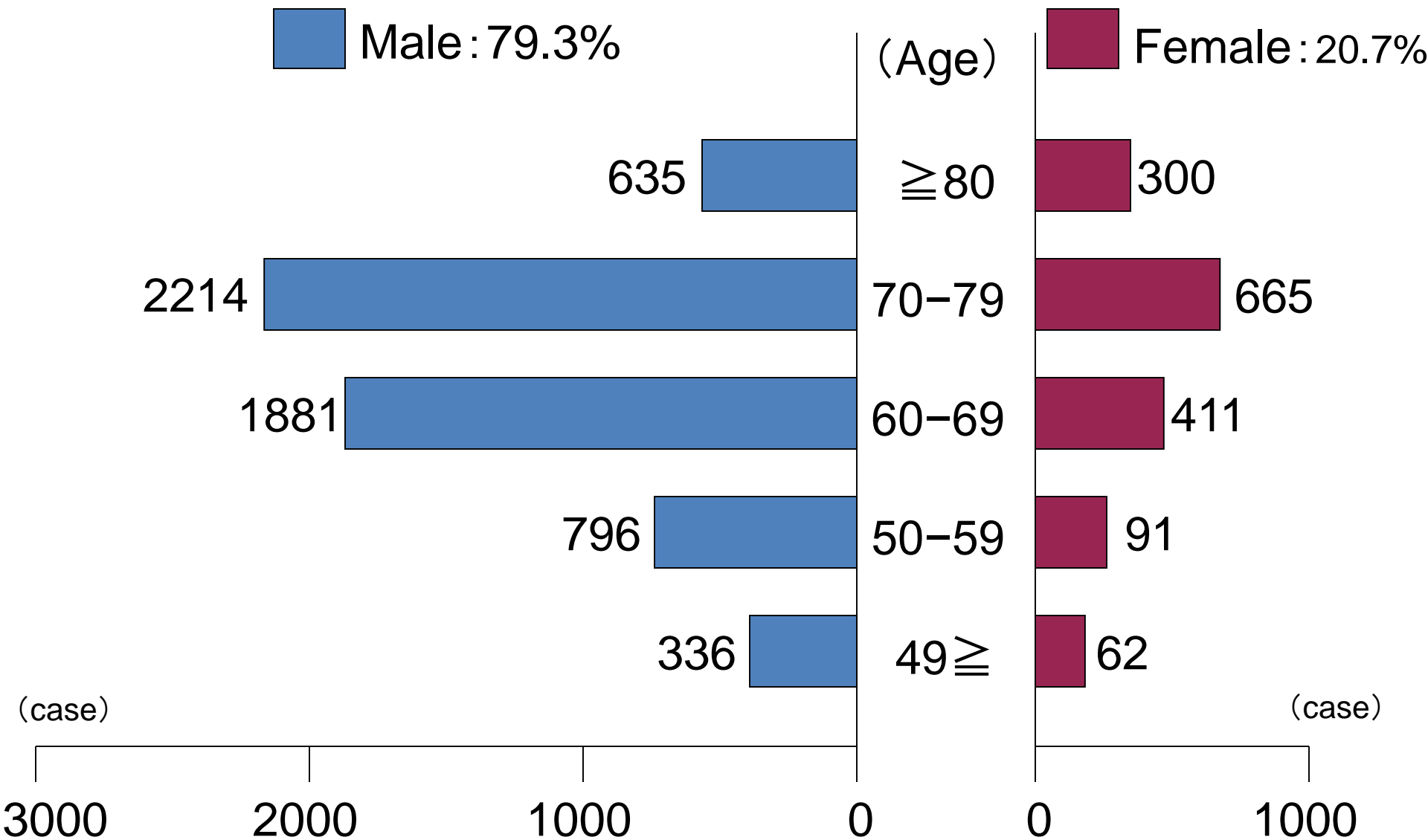


0 25 50 75 100%

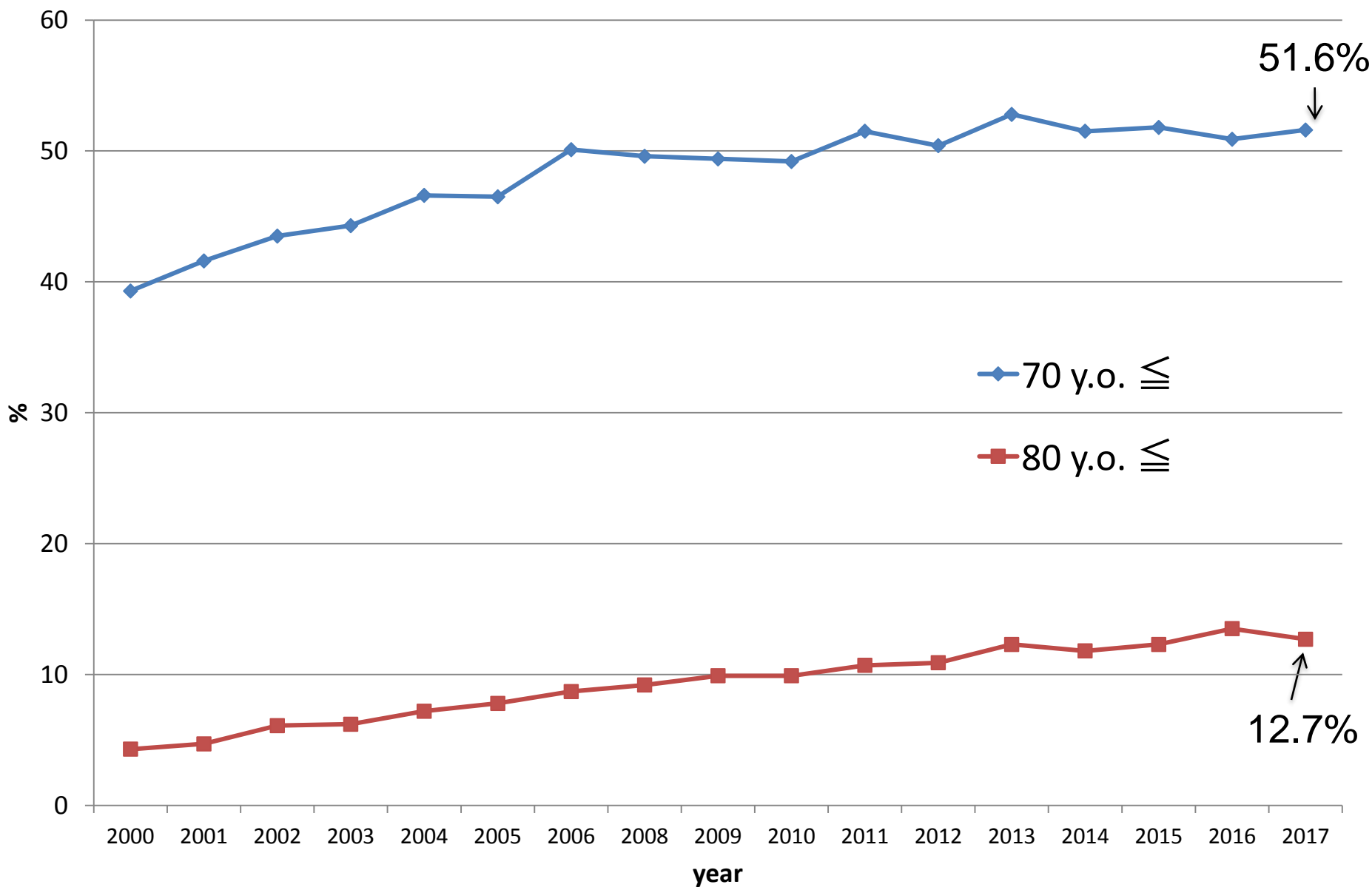
Off-pump vs. off to on-pump conversion (Initial elective CABG)



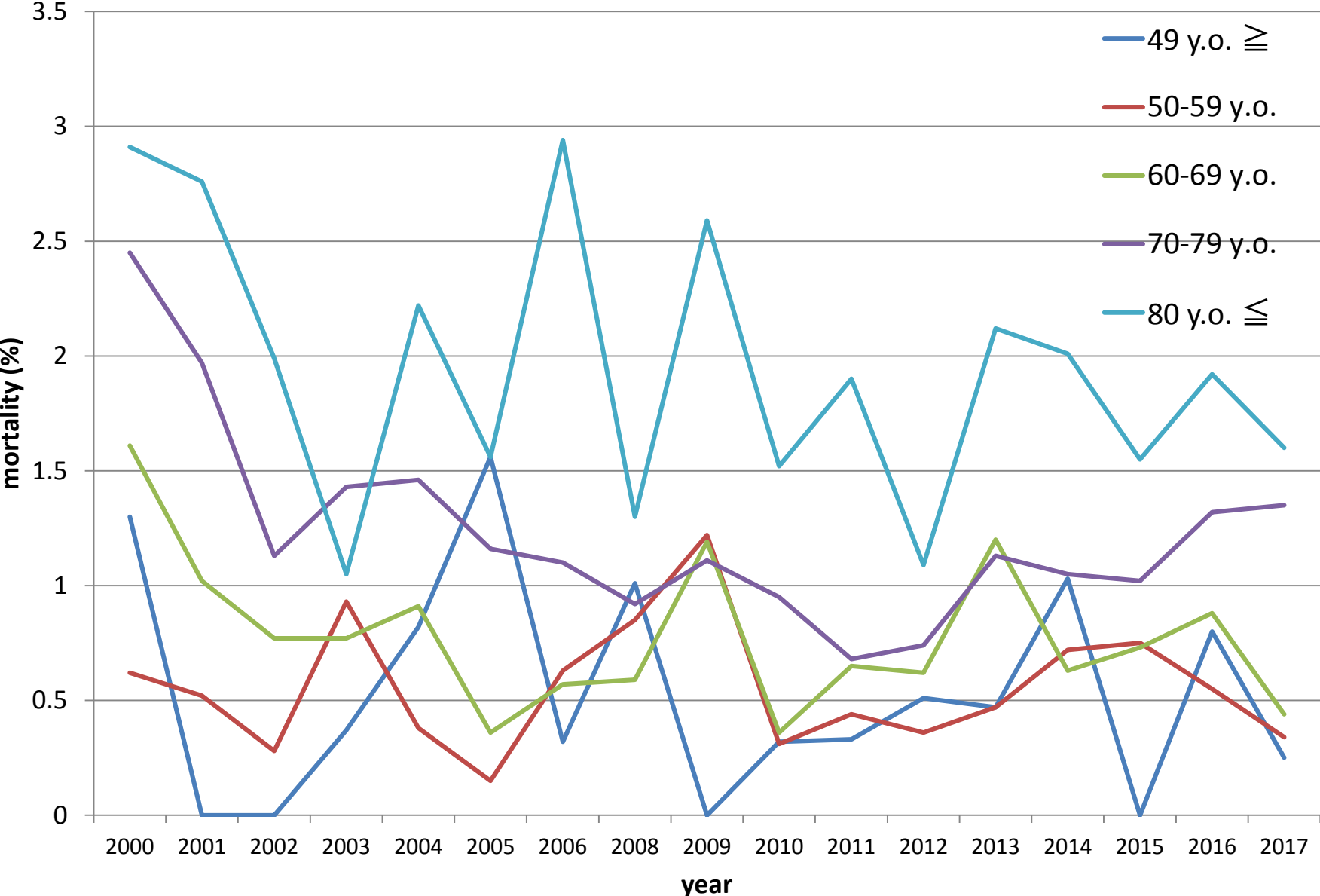
Age distribution according to gender (Initial elective CABG)



Changes of elderly cases (Initial elective CABG)

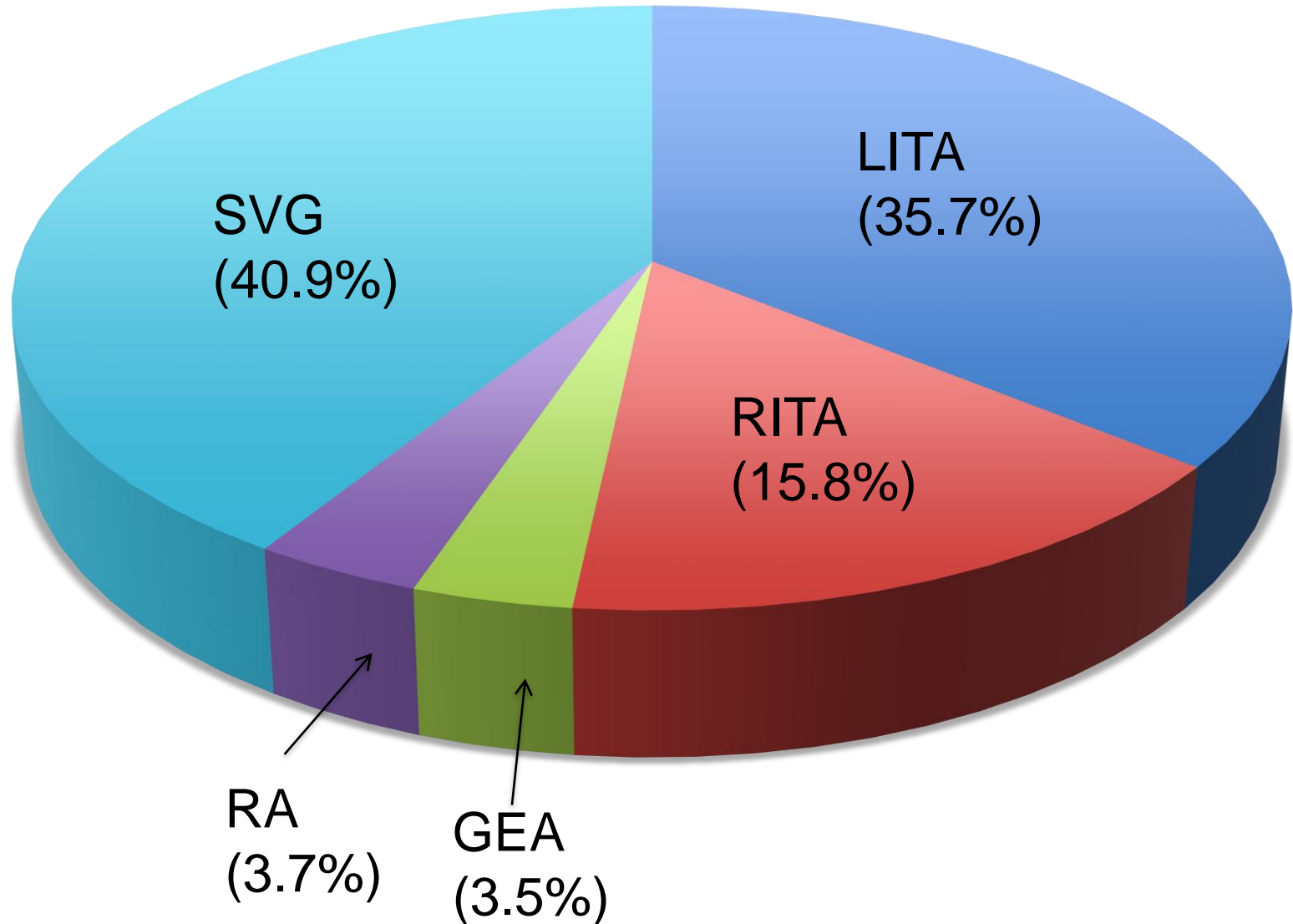


Changes of mortality according age (Initial elective CABG)

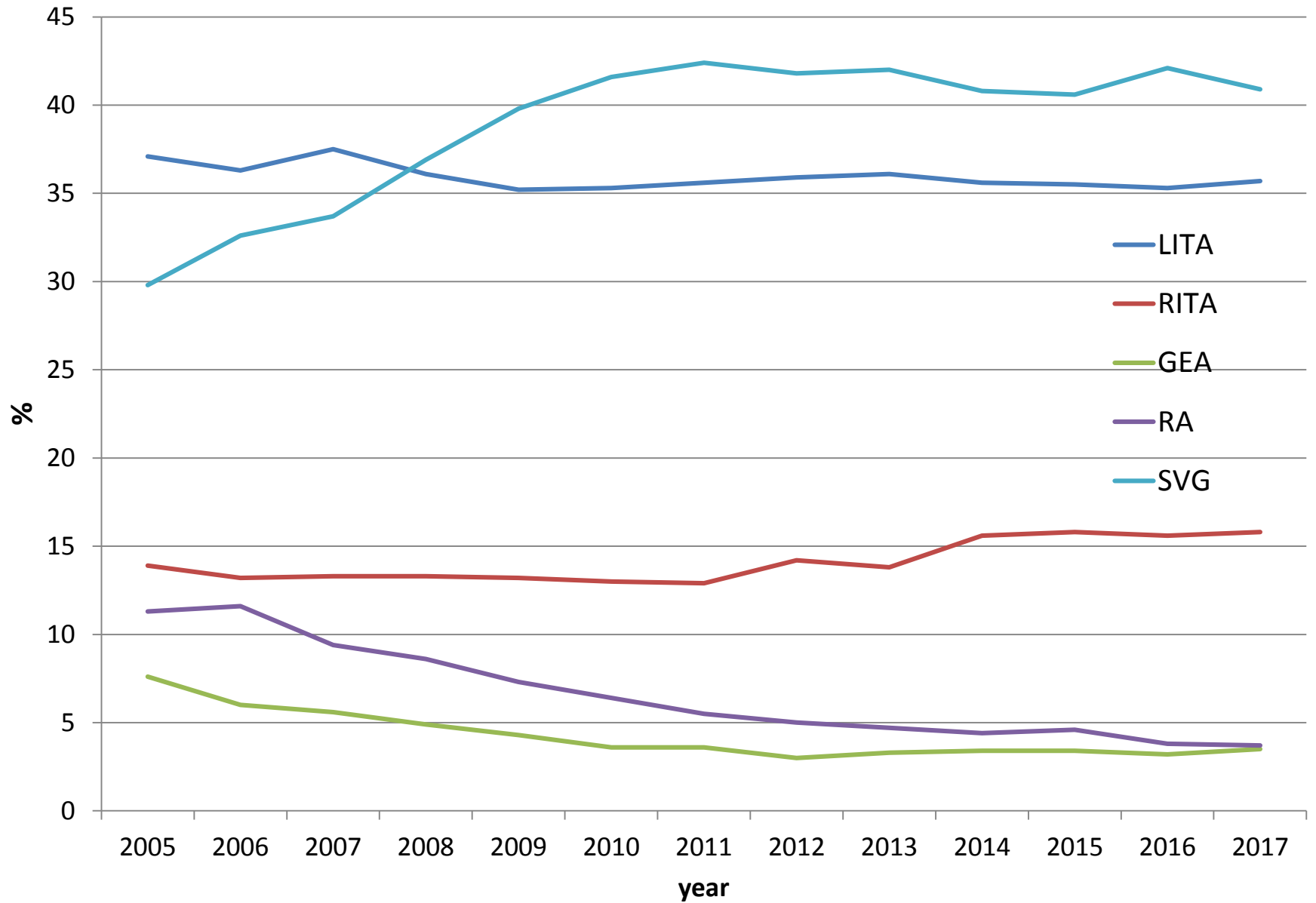


Graft selection

(Total graft number of isolated CABG : 22,293)



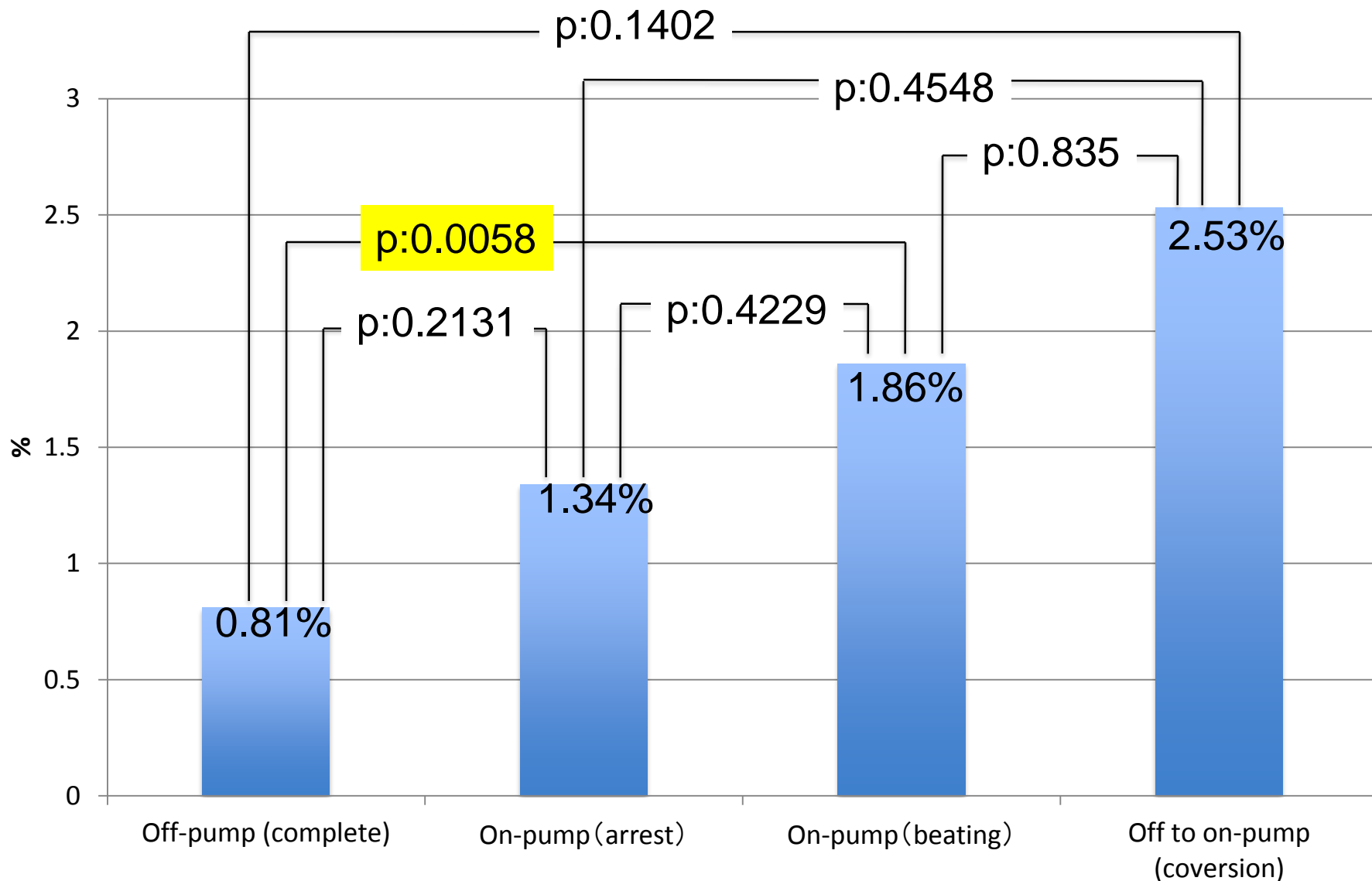
Changes of graft selection



Stroke rate according to procedures (Isolated CABG)

Stroke cases: 97

Stroke rate: $97/8497$ (isolated CABG) = 1.14%



Results of emergency CABG after PCI complications

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

Cases: 75

Rate: 75 / 8497 (isolated CABG) ; 0.88%

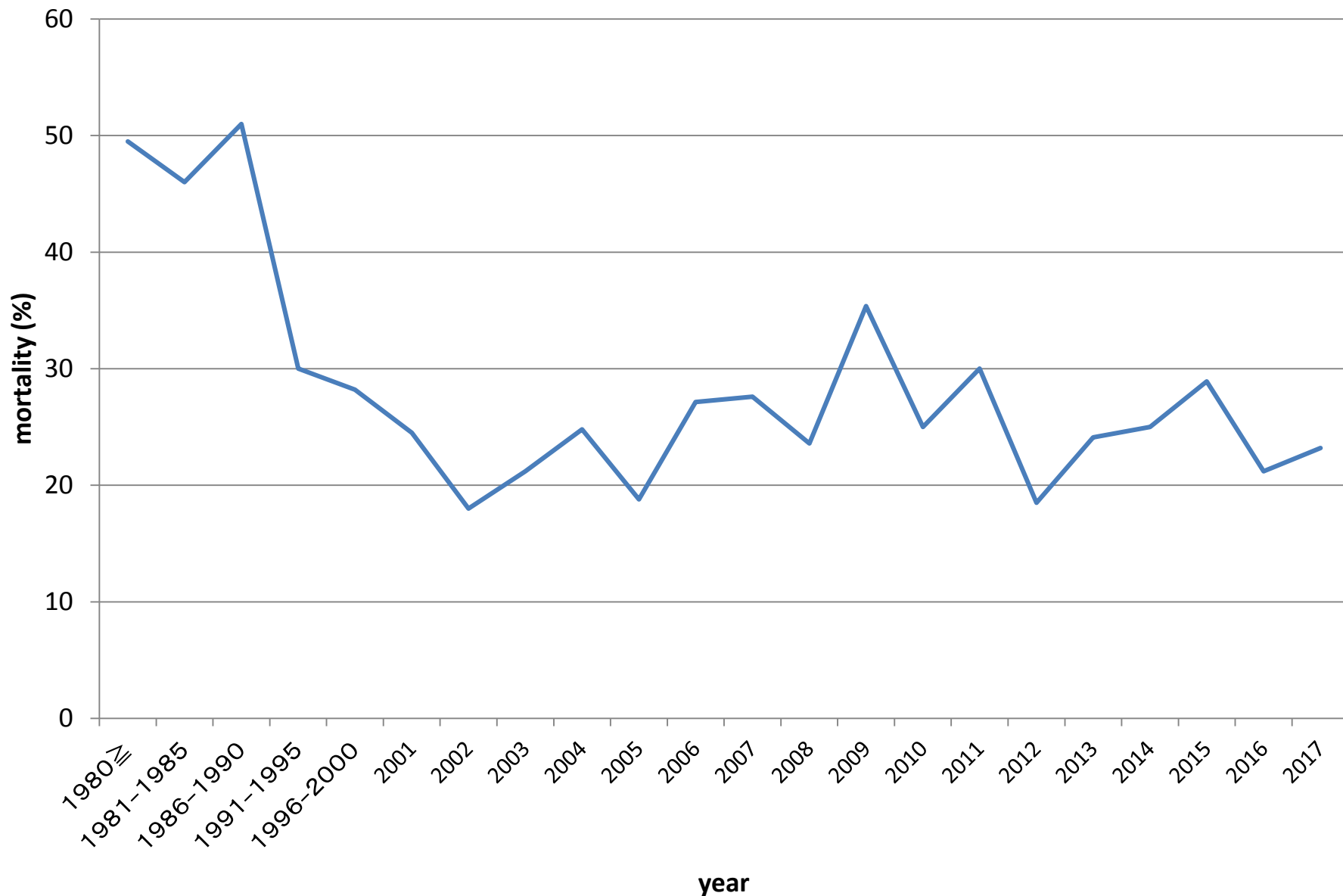
Death cases: 11

Mortality: 14.67%

Results

	cases	death cases	mortality(%)
CABG①	25	4	16.00
CABG②	26	3	11.54
CABG③	11	1	9.09
CABG④	8	2	25.00
Other procedures	5	1	20.00

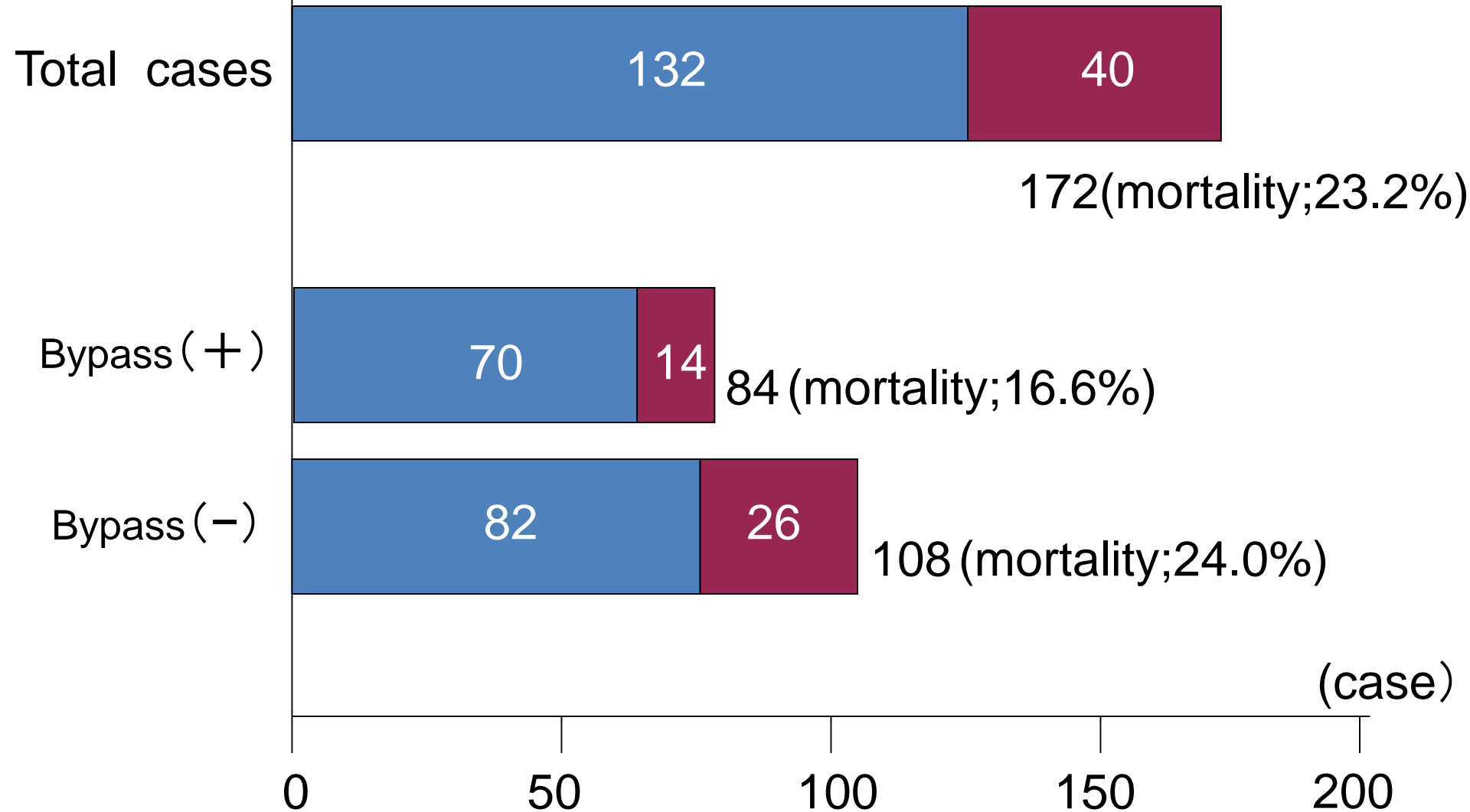
Changes in results of ventricular septal perforation



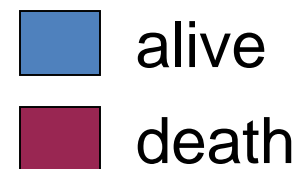
Total No. : 172, death : 40 (mortality : 23.2%)

Results of ventricular septal perforation (1)

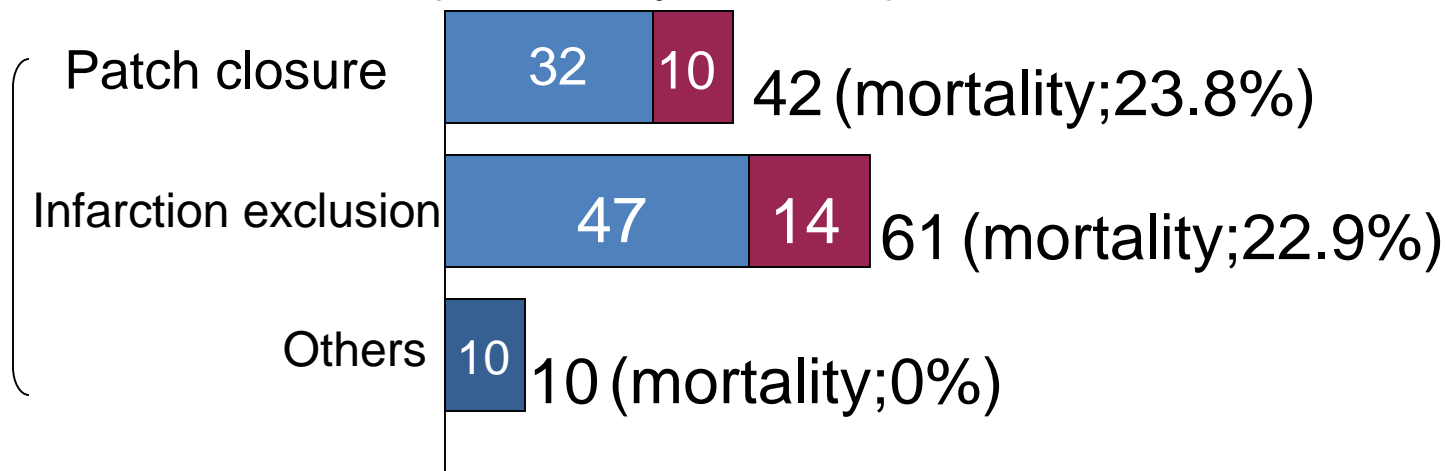
alive
death



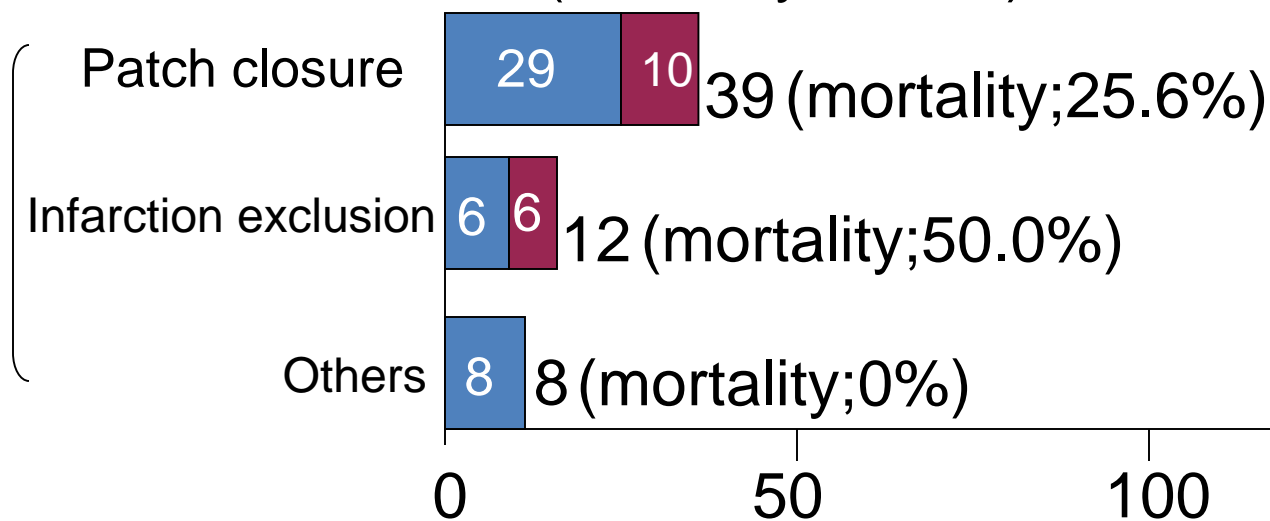
Results of ventricular septal perforation (2)



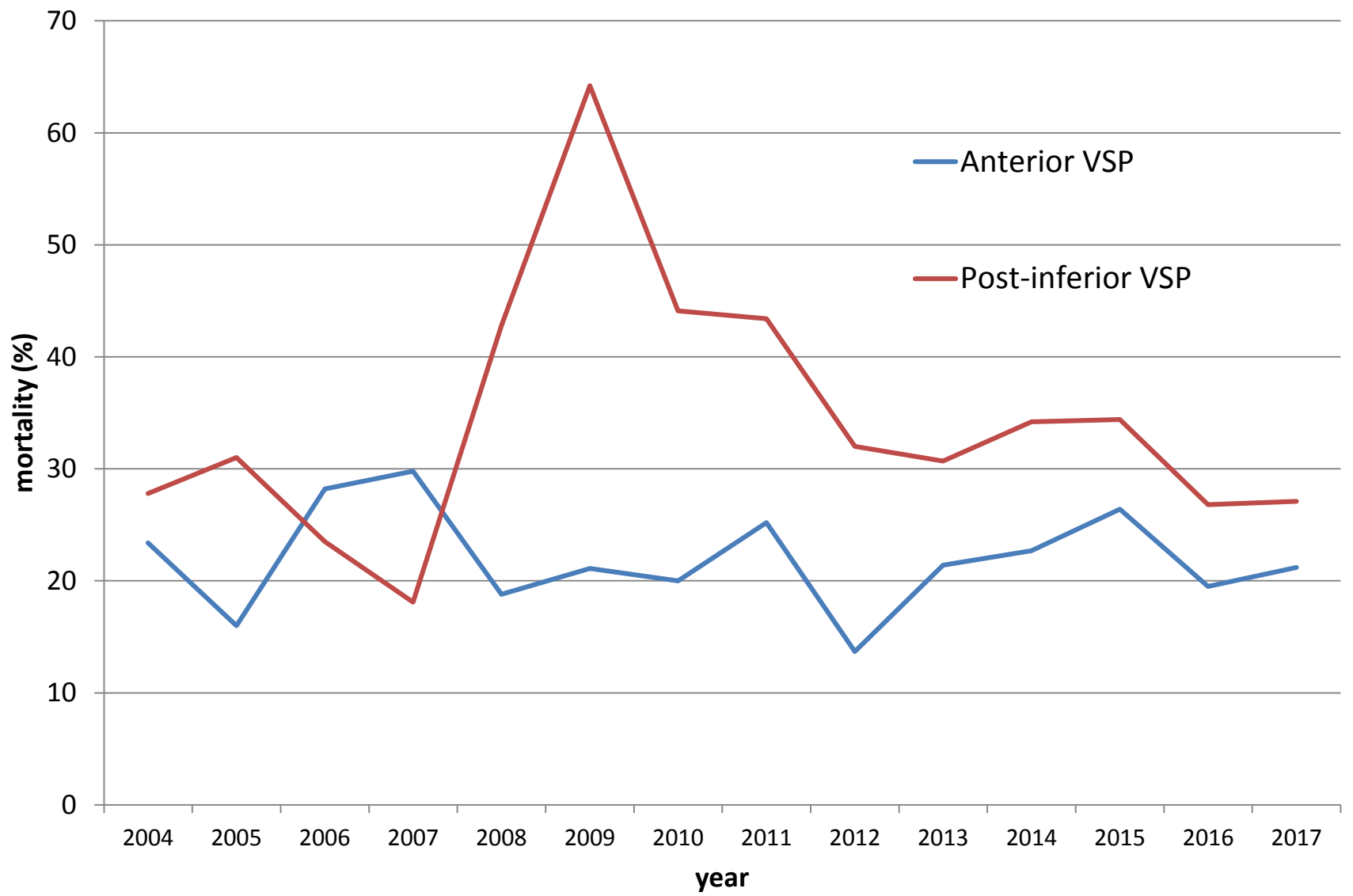
Anterior infarction(mortality;21.2%)



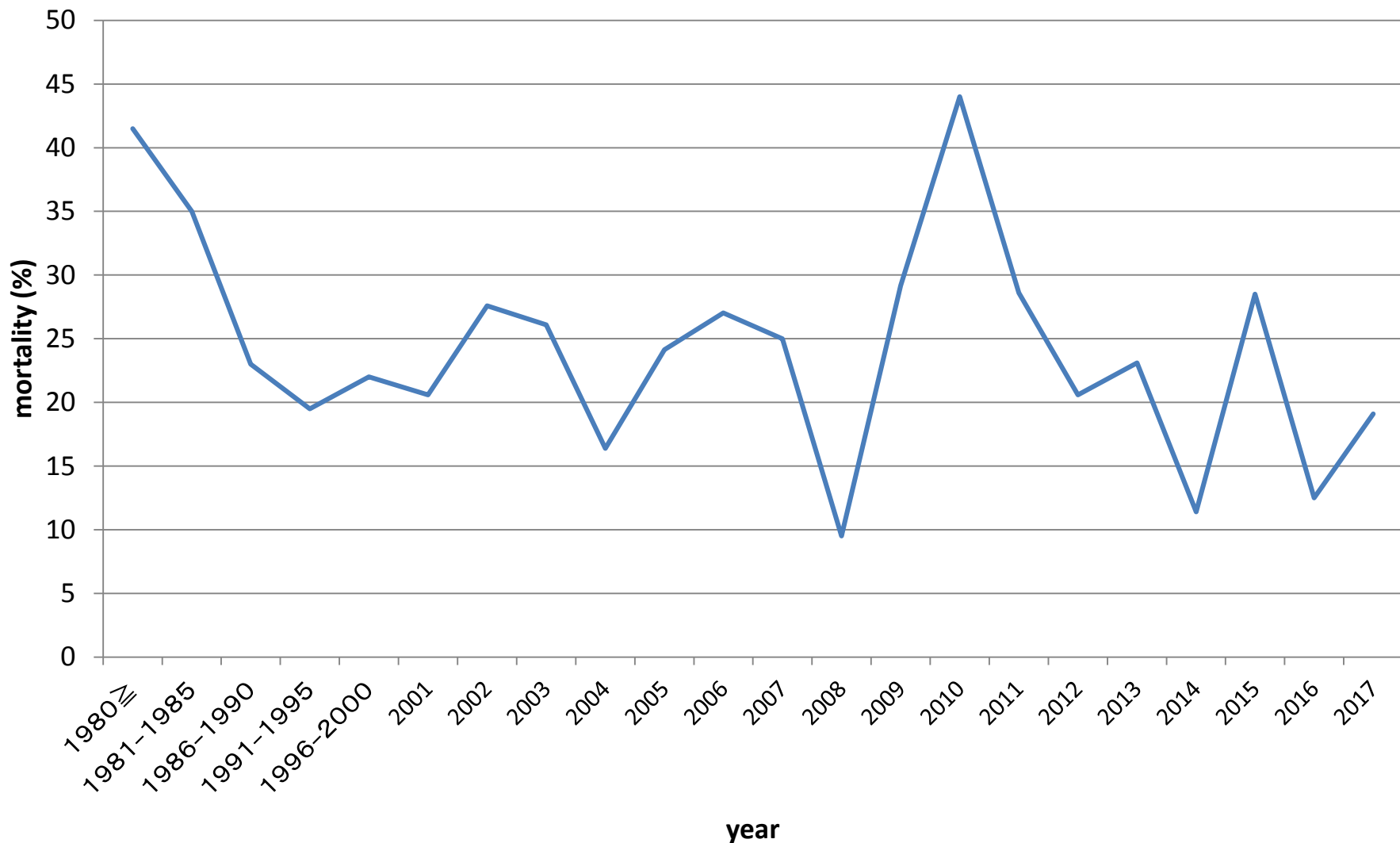
Post-inferior infarction(mortality;27.1%)



Changes in results of ventricular septal perforation according to infarction region



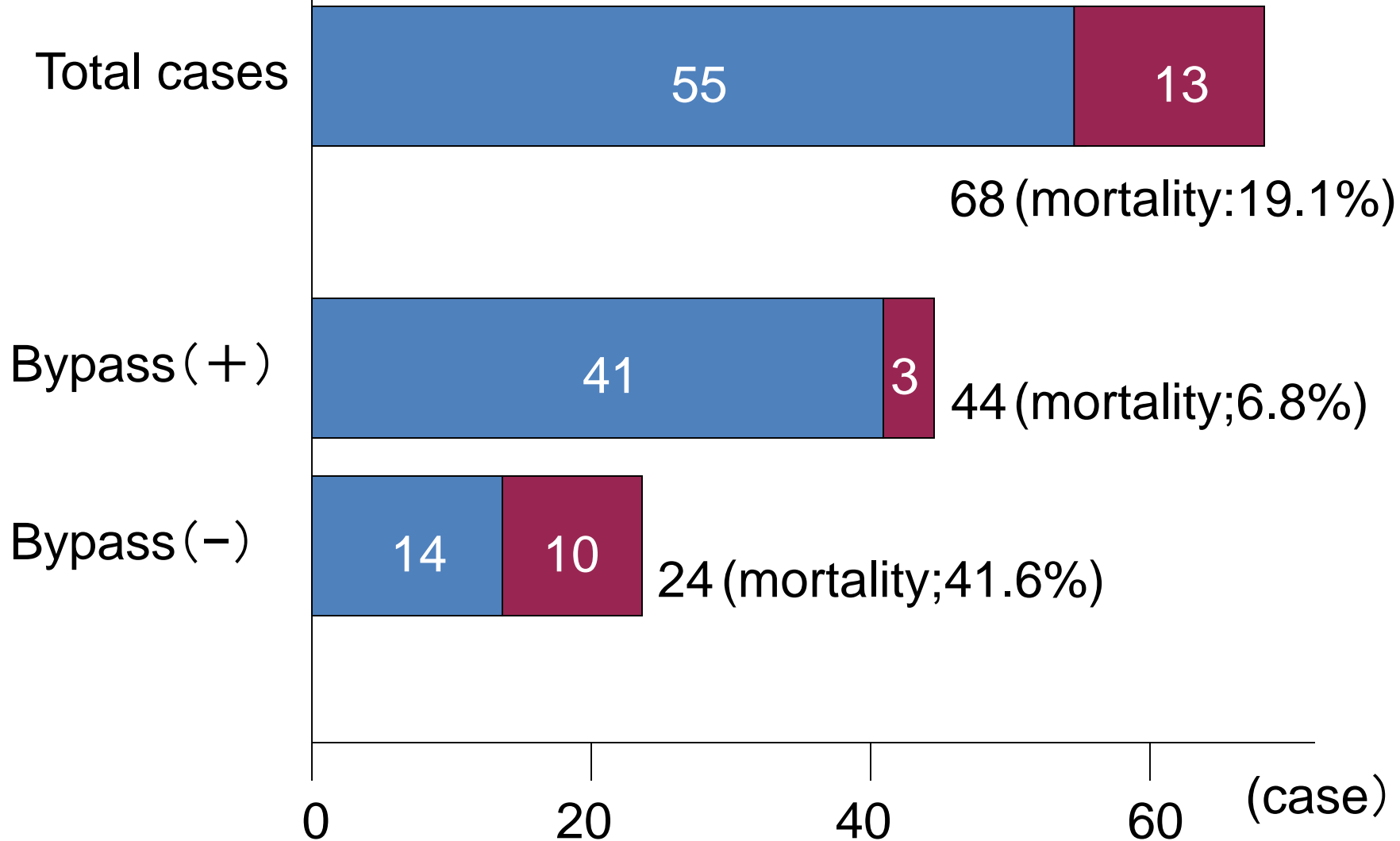
Changes in results of papillary muscle rupture



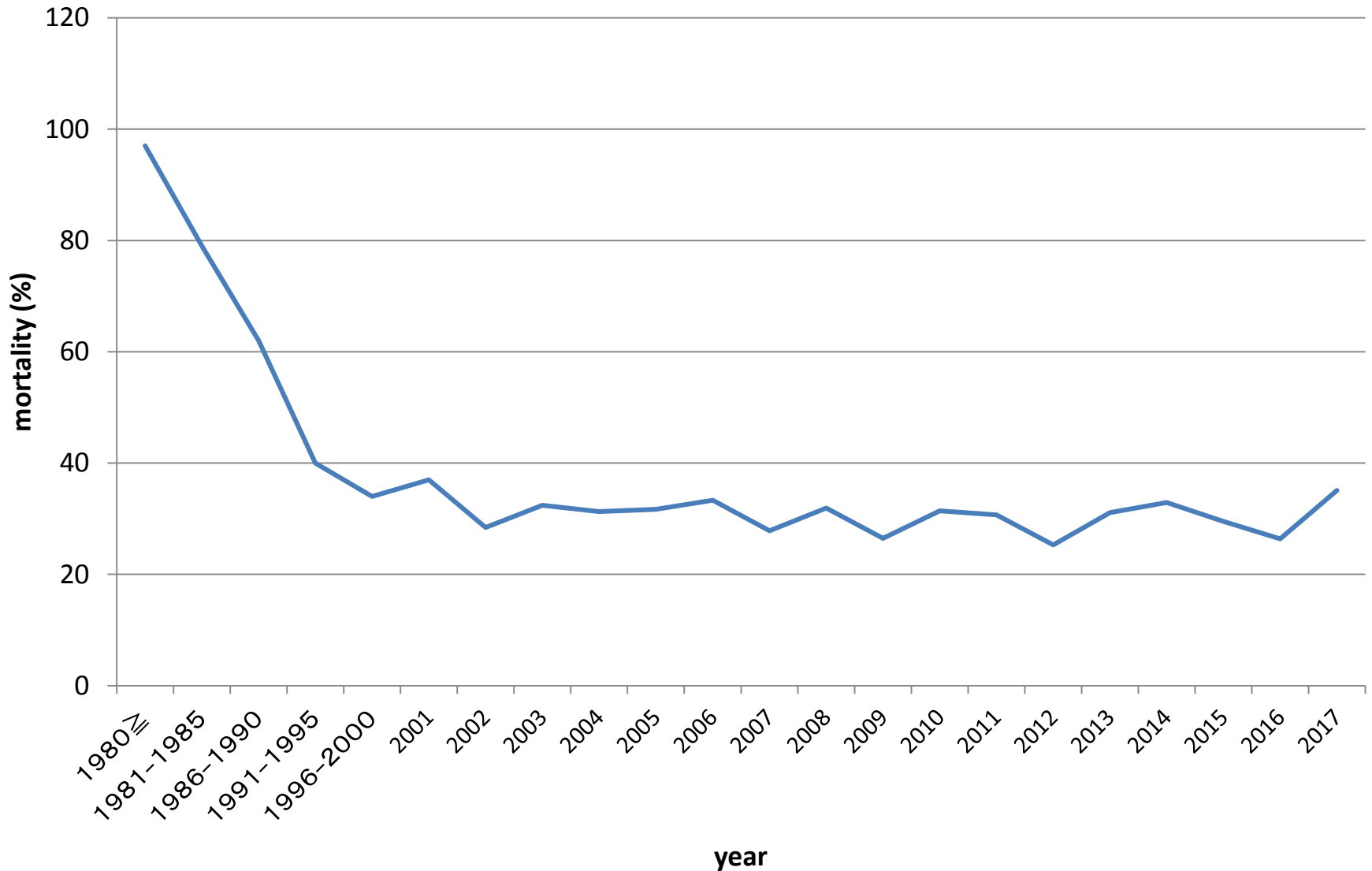
Total No. : 68, death : 13 (mortality : 19.1%)

Results of papillary muscle rupture

alive
death



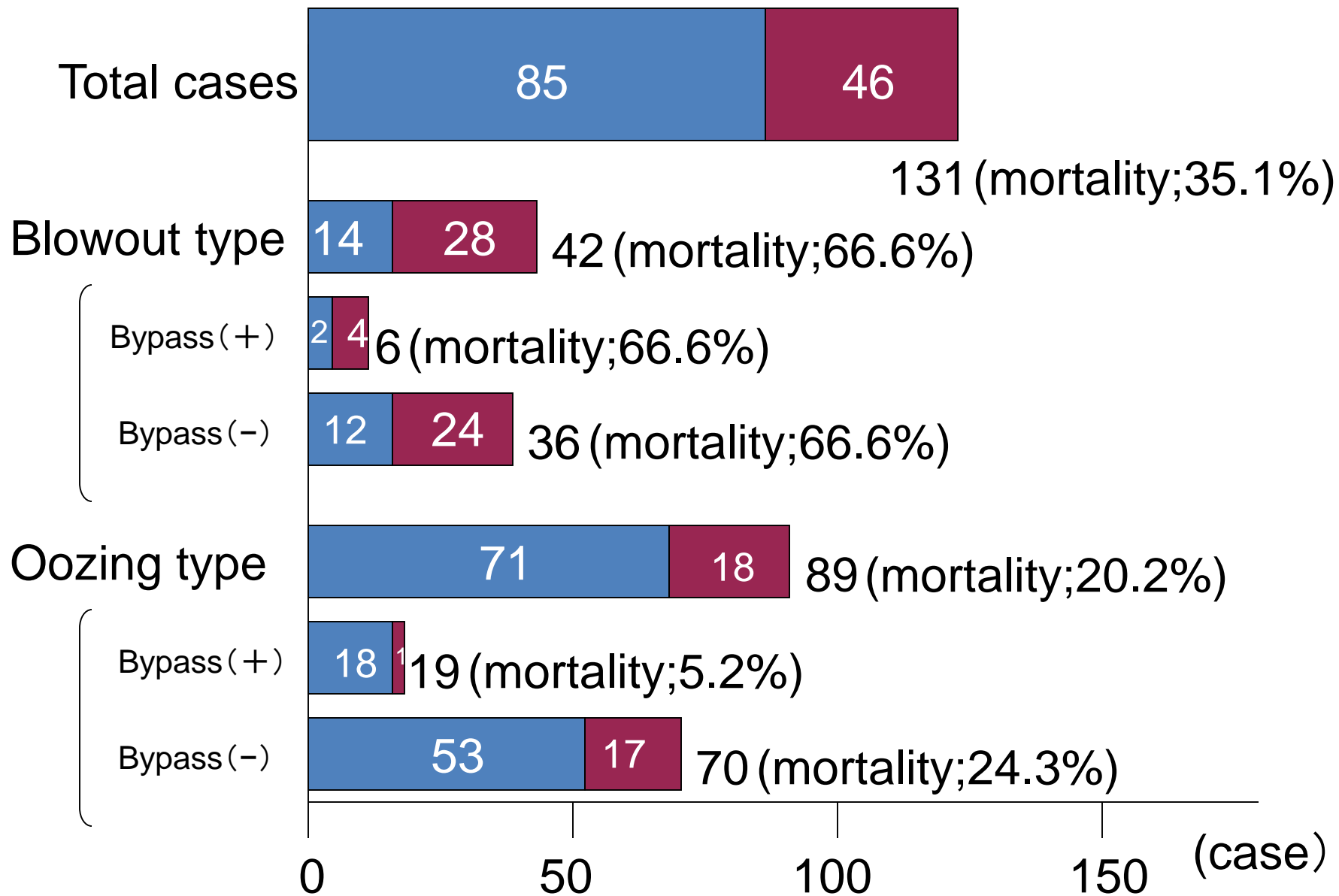
Changes in results of LV free wall rupture



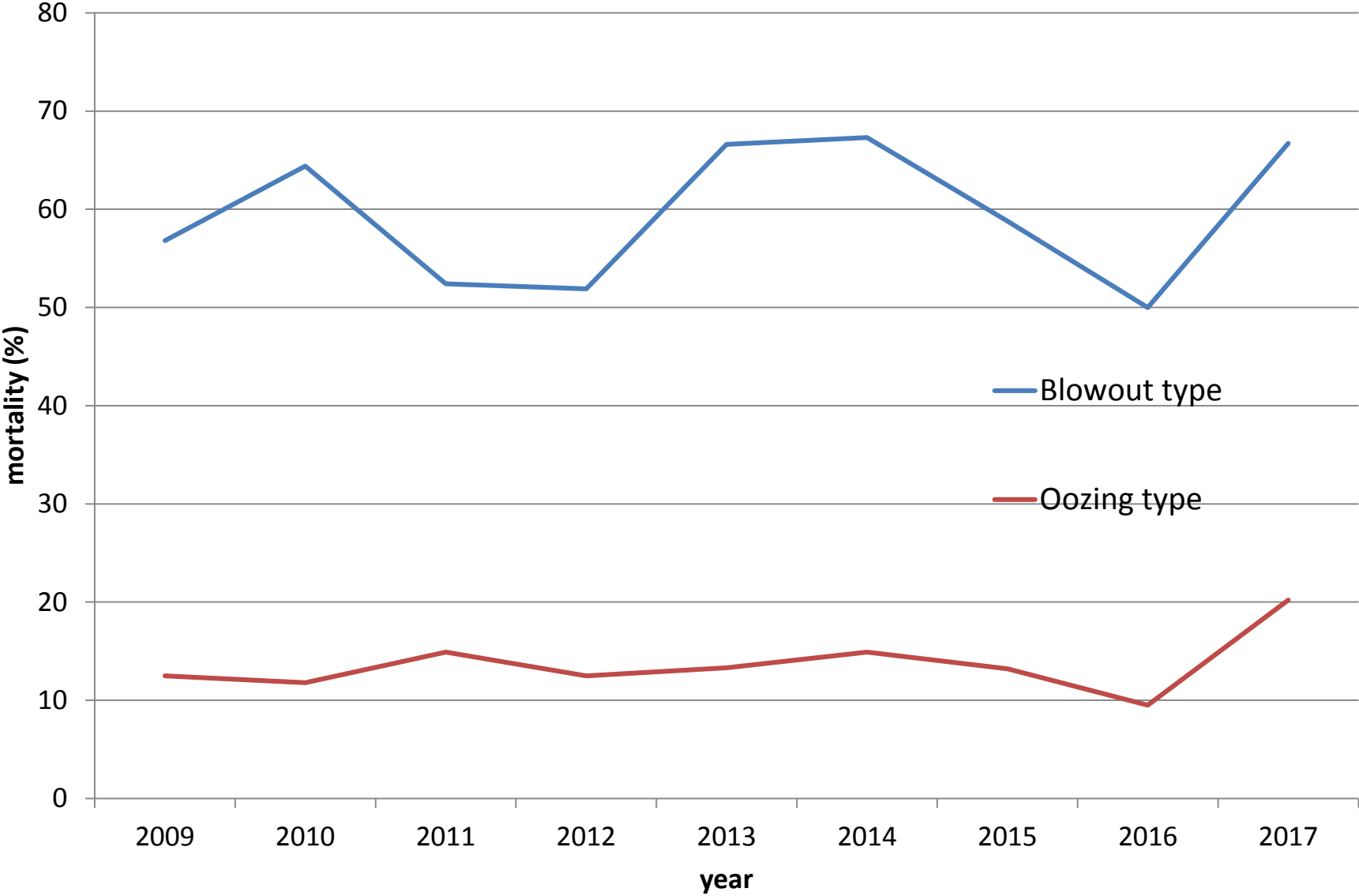
Total No.: 131, death: 46 (mortality: 35.1%)

Results of LV free wall rupture

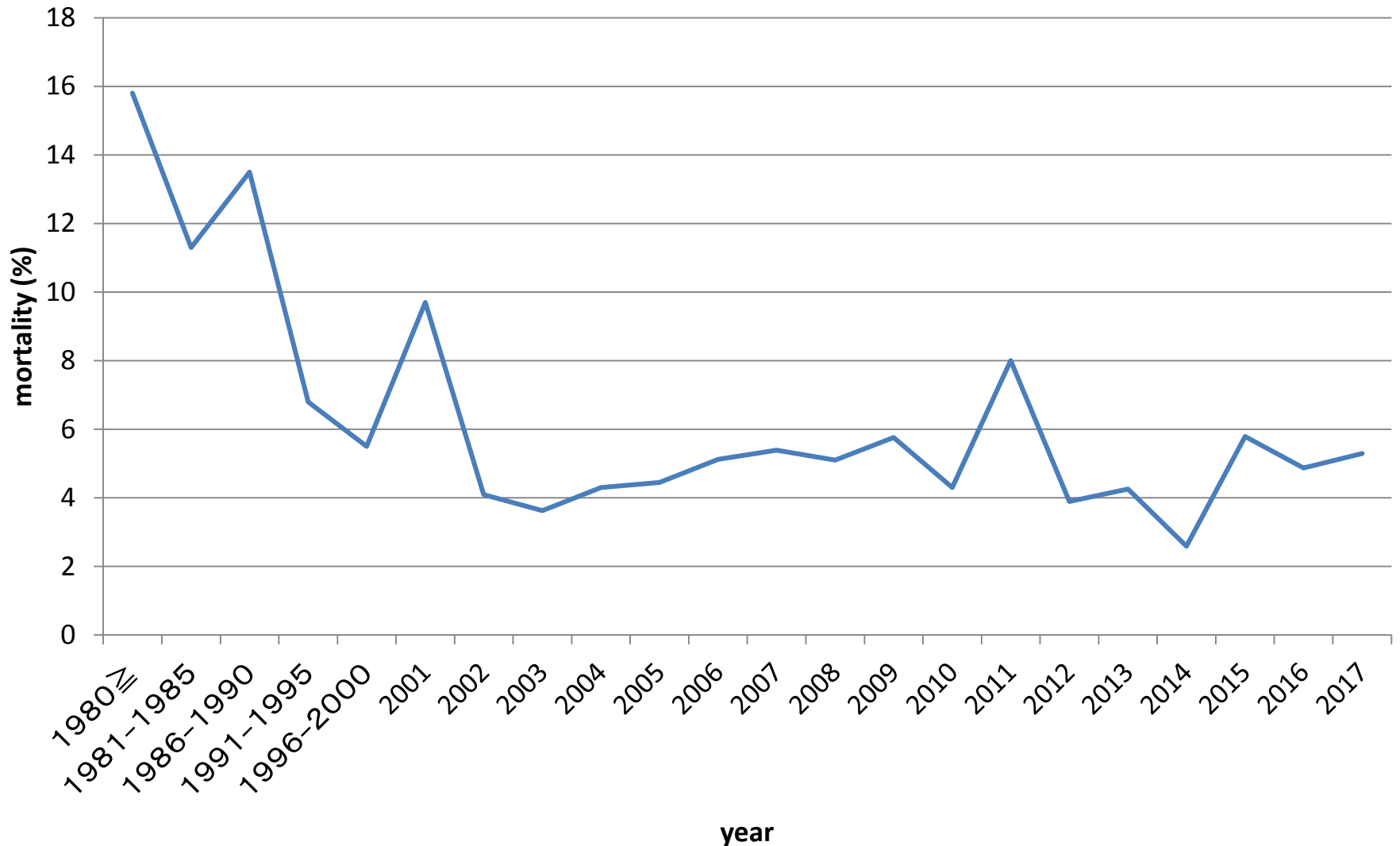
alive
death



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

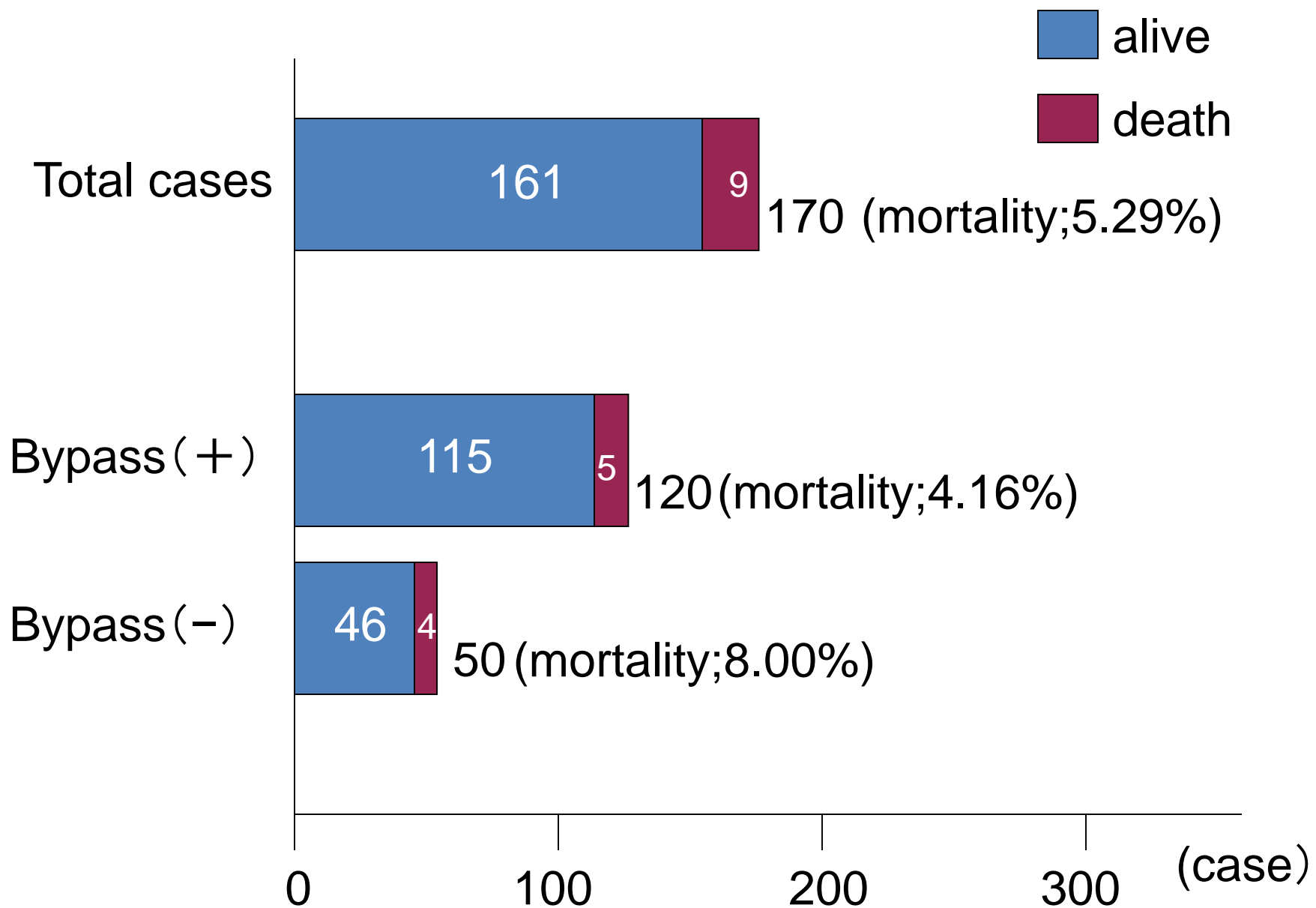


Changes in results of left ventricular aneurysm (LVA)

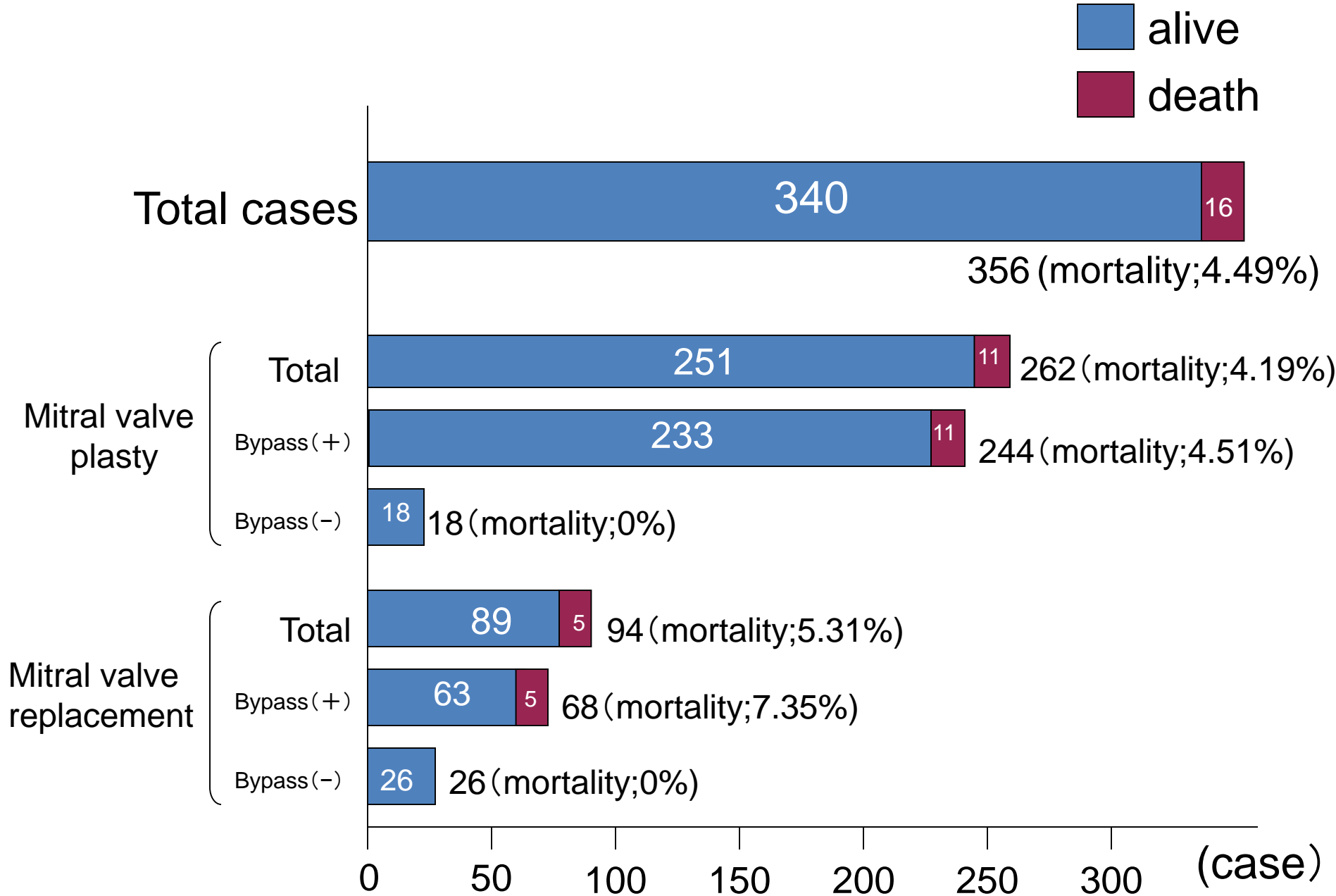


Total No. : 170, death : 9 (mortality : 5.29%)

Results of left ventriculoplasty and/or aneurysmectomy



Results of MVR or MVP for ischemic MR



Results of ischemic MR+LVA or ischemic cardiomyopathy

alive
death

Total cases

49

4

53 (mortality;7.54%)

Total

36

3

39 (mortality;7.69%)

Bypass(+)

26

3

29 (mortality;10.34%)

Bypass(-)

10

10 (mortality;0%)

Total

13

1

14 (mortality;7.14%)

Bypass(+)

8

1

9 (mortality;11.11%)

Bypass(-)

5

5 (mortality;0%)

0

25

50

75

(case)

Left ventriculoplasty
+
Mitral valve plasty

Left ventriculoplasty
+
Mitral valve
replacement

Conclusions (1)

1. The mortality of isolated CABG was 1.52%, that of initial elective CABG was 0.81%, indicating better excellent results than those of previous year.
2. Of initial elective CABGs, 64% cases underwent off-pump procedure, showing still high rate. The mortality of off-pump was 0.61%, which was much lower than that of previous year, indicating excellent results.
3. Off to on-pump conversion rate was 2.9%, and the mortality of those cases was 2.29%, which was remarkable better results than that of previous year.
4. Of all 4 and/more bypass procedures, 62.3% cases were done by off-pump CABG.
5. CABG cases is getting older year by year, more than 70 years old patients rate was 51.6%, more than 80 was 12.7%, showing high rate.

Conclusions (2)

6. Arterial grafts were used in 58.8% of all grafts, while vein grafts were used in 40.9%. The frequency of vein graft usage increased in recent years.
7. The complication rate of central nerve system stroke of all isolated CABG was 1.14%. This rate of off-pump CABG showed significantly lower than those of on-pump (beating), which means that OPCAG can avoid this complication.
8. After PCI complications, emergency operation underwent in 0.88% of all isolated CABG within 24 hours. The mortality of those cases was 14.67%, showing still high rate.
9. The results of complications for acute and old myocardial infarction got worse than those of previous year. Especially, the mortality of post-inferior VSP and blowout type free wall rupture, were high rate, indicating poor prognosis.