

**Surgical ablation (MAZE) for atrial  
fibrillation during coronary and/or  
valvular heart surgery:  
PRAGUE-12 study - results after 1 year.**



# Background.



# Methods

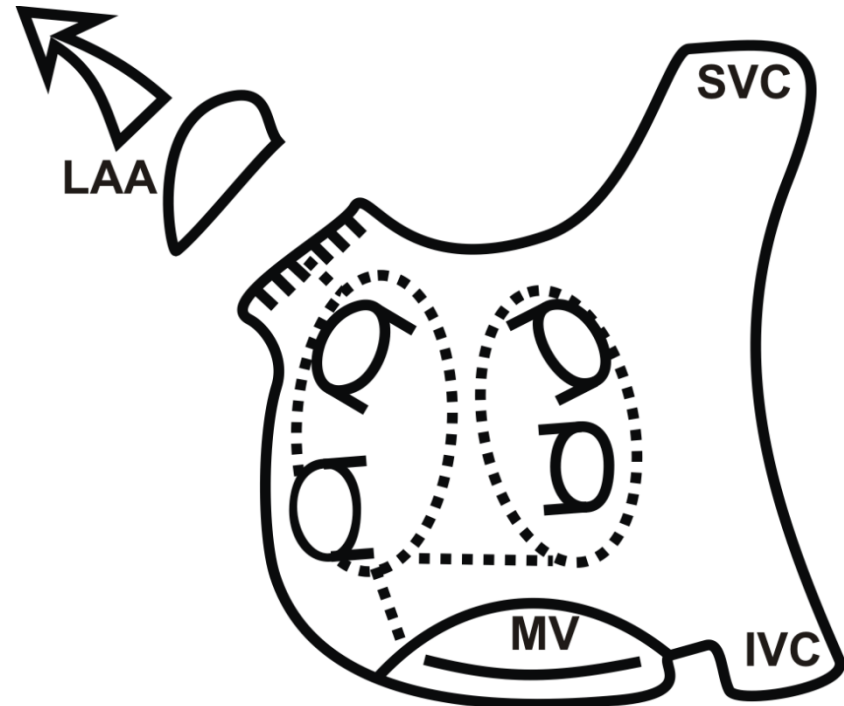


# Patients



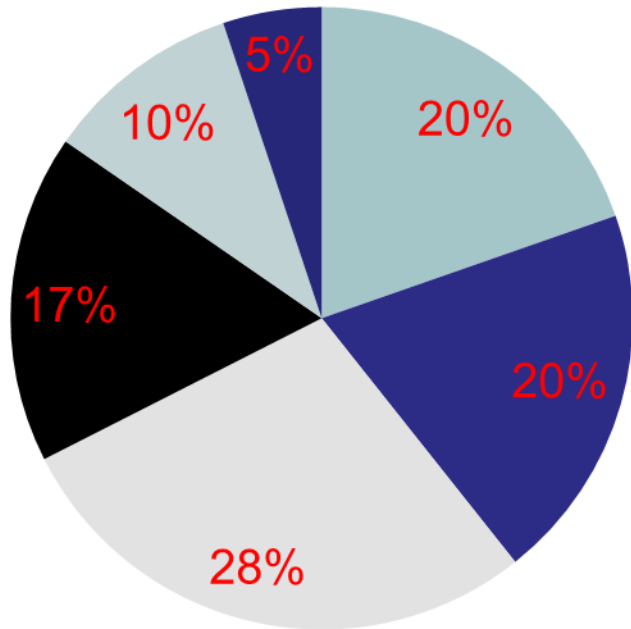
<b>Baseline characteristic</b>	<b>n (%)</b>	<b>MAZE (n = 117)</b>	<b>Non-MAZE (n = 107)</b>
<b>Age (years)</b>		<b>69.9 ± 7.8</b>	<b>71.0 ± 7.9</b>
<b>Paroxysmal AF</b>		<b>26 (22.2)</b>	<b>33 (30.8)</b>
<b>Persistent AF</b>		<b>30 (25.6)</b>	<b>25 (23.4)</b>
<b>Longstanding persistent AF</b>		<b>61 (52.1)</b>	<b>49 (45.8)</b>
<b>Atrial fibrillation just prior surgery</b>		<b>91 (77.8)</b>	<b>70 (65.4)</b>
<b>Left atrial diameter (mm)</b>		<b>48.7 ± 7.3</b>	<b>47.7 ± 7.1</b>
<b>Mean NYHA functional class</b>		<b>2.3 ± 0.6</b>	<b>2.3 ± 0.7</b>
<b>Prior stroke / TIA</b>		<b>13 (11.1)</b>	<b>15 (14.0)</b>
<b>Diabetes</b>		<b>41 (35.0)</b>	<b>40 (37.4)</b>
<b>Prior major bleeding</b>		<b>4 (3.4)</b>	<b>6 (5.6)</b>

# Surgical procedure



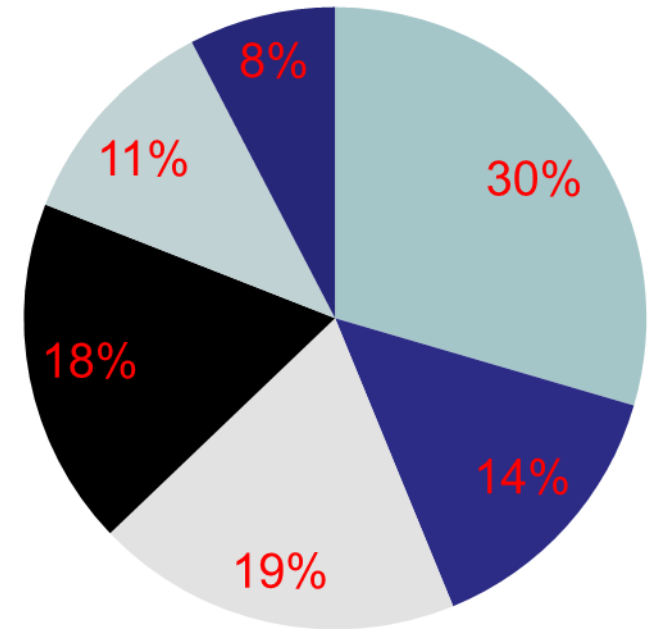
# Procedure types (all-comers with AF)

## MAZE group



- CABG
- AVR (± TVP)
- MVP/MVR (± TVP)
- CABG + MVP/MVR (± other)
- CABG + AVR (± TVP)
- Other

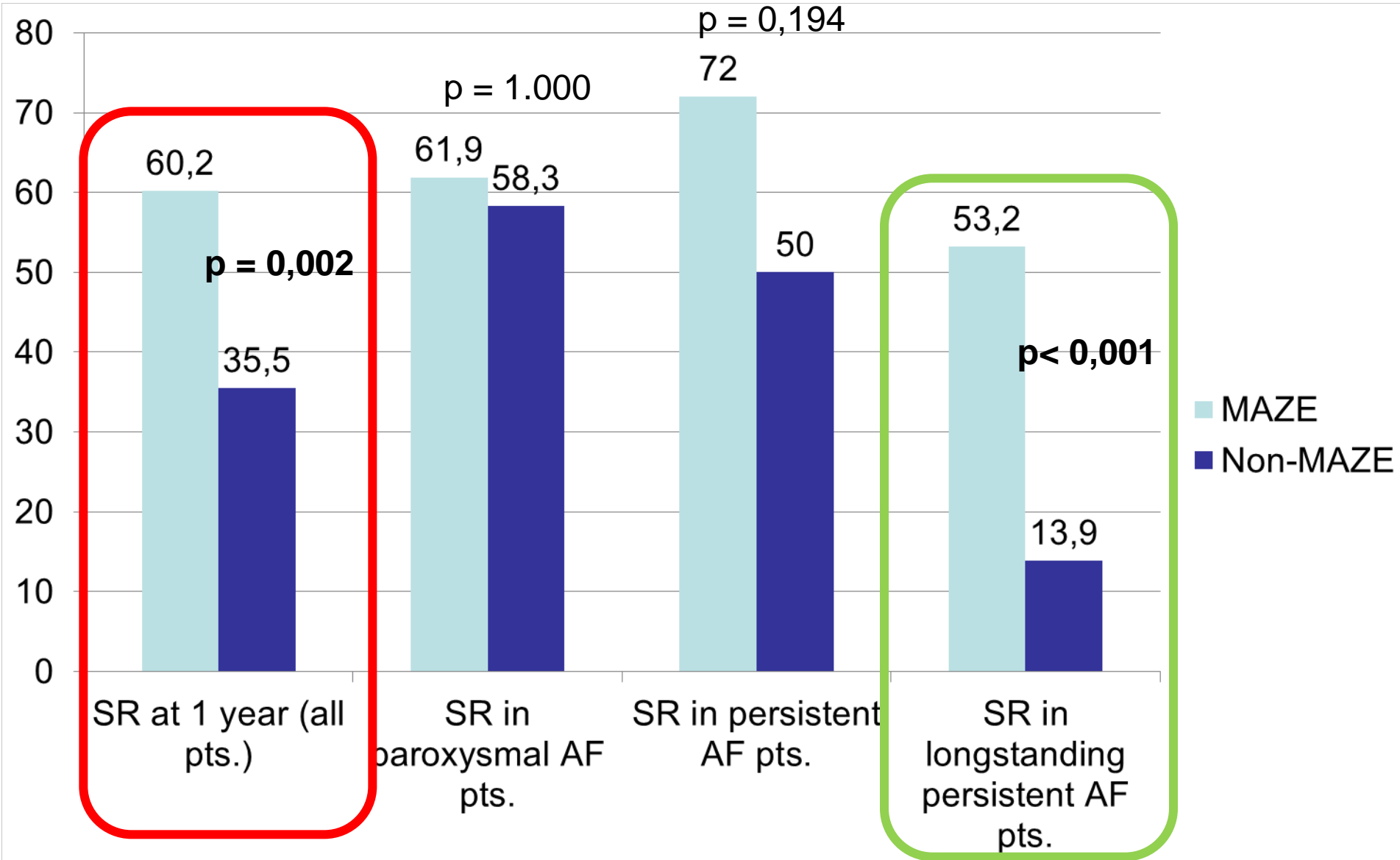
## Non-MAZE group



- CABG
- AVR (± TVP)
- MVP/MVR (± TVP)
- CABG + MVP/MVR (± other)
- CABG + AVR (± TVP)
- Other

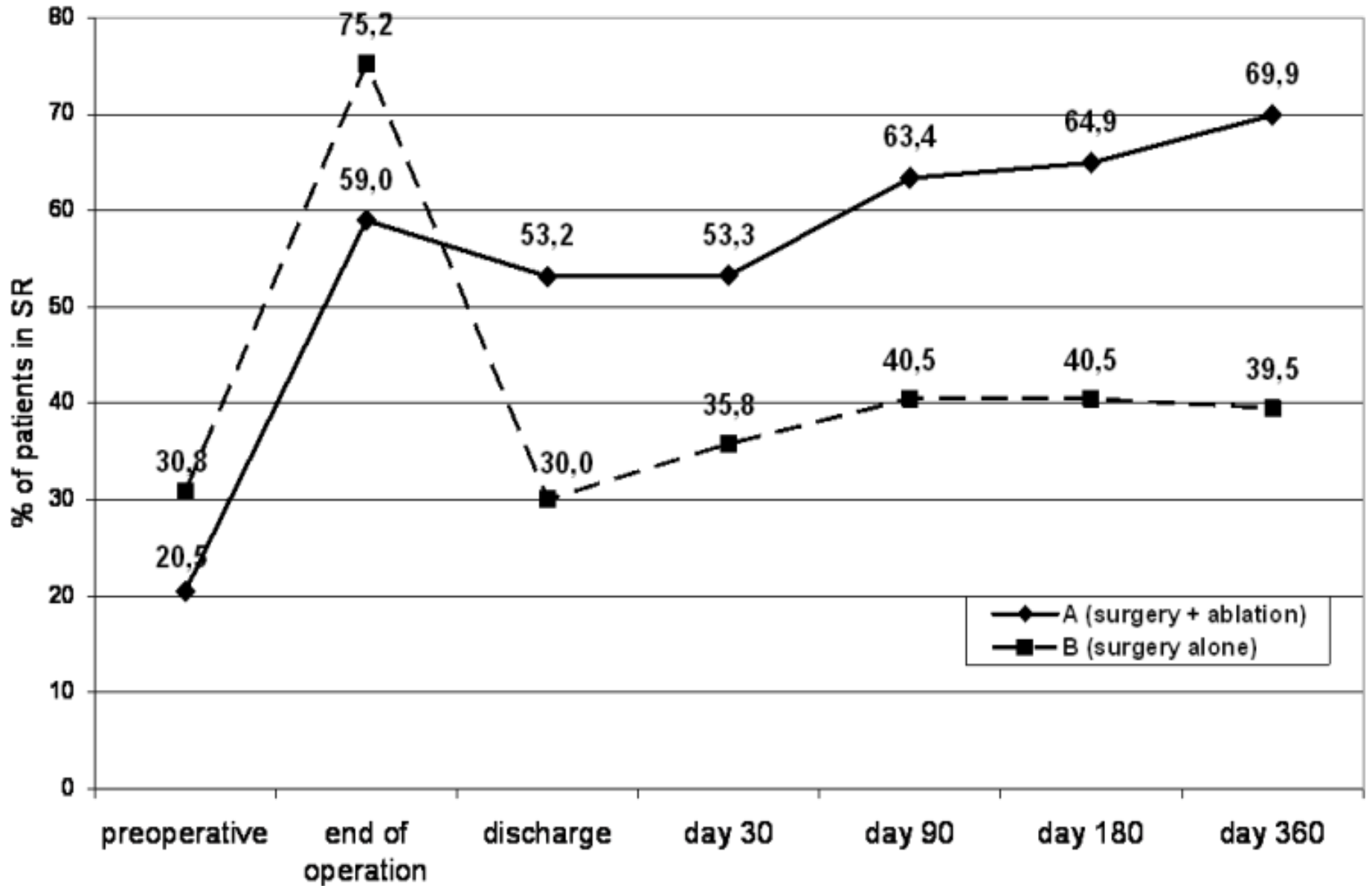
# Sinus rhythm after 1 year

(primary efficacy end-point, Holter 24-hour ECG)



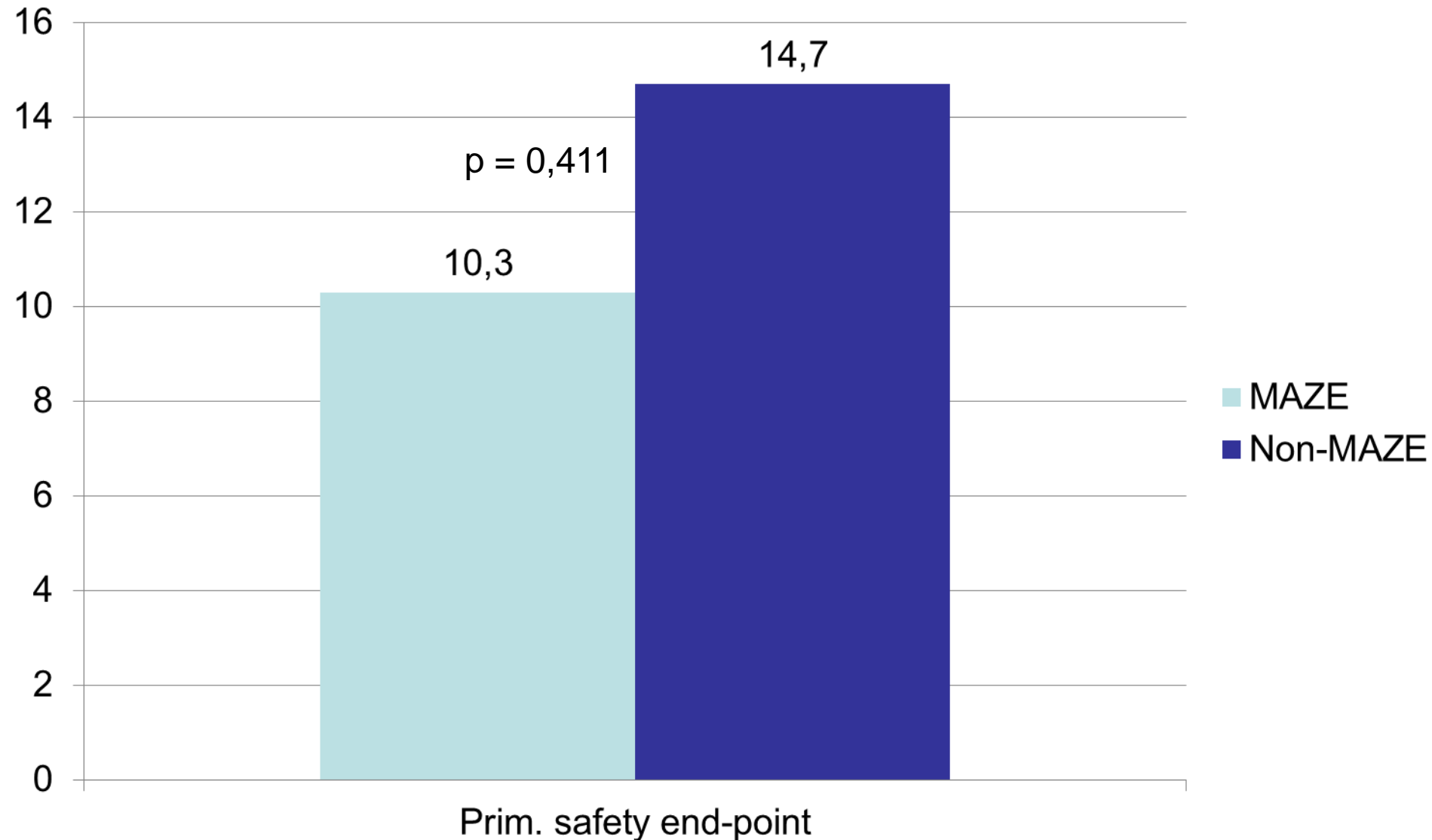


# Evolution of sinus rhythm during 1 year (12-lead ECGs)



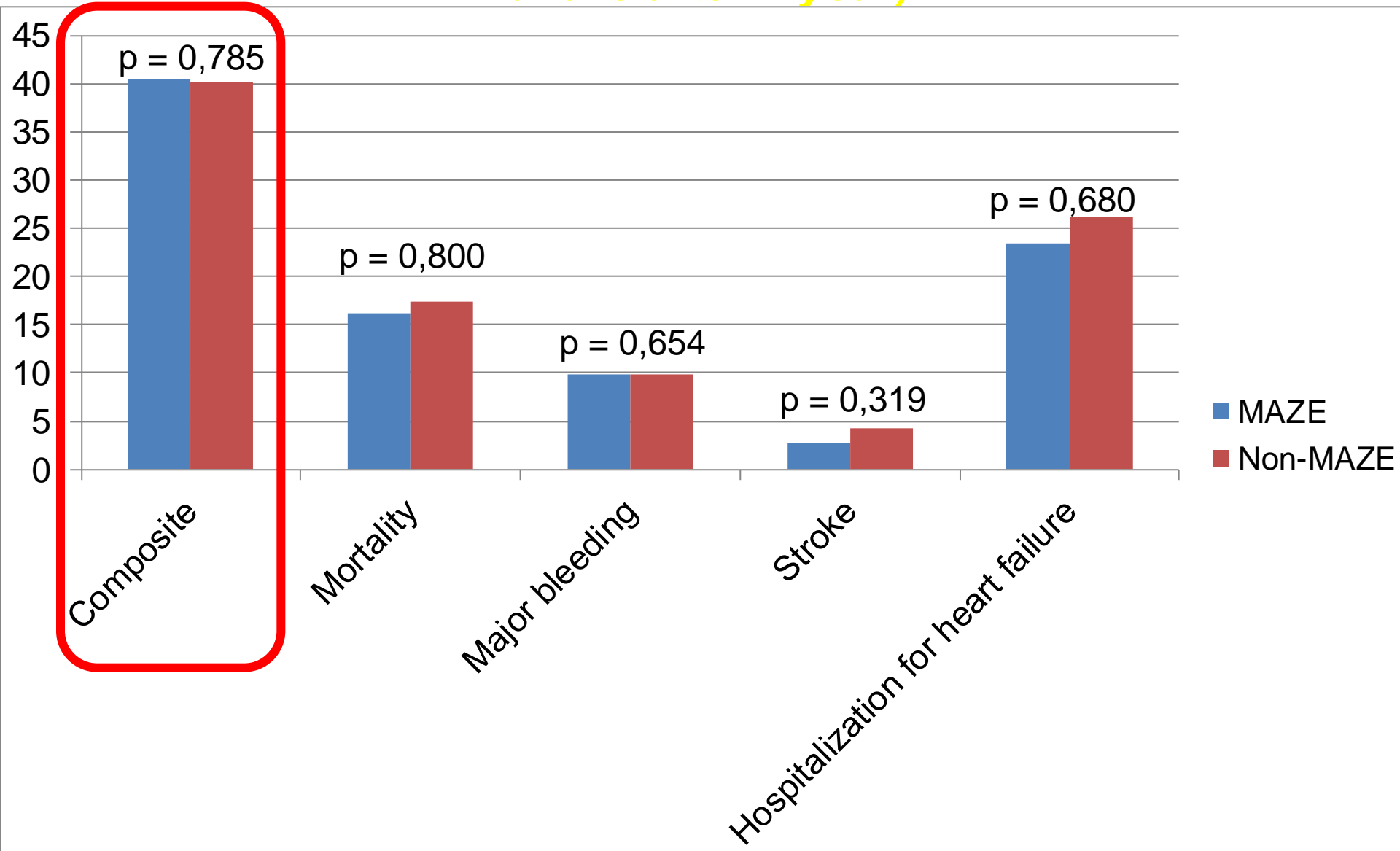
# Perioperative complications

*Primary safety outcome (death / myocardial infarction / stroke / renal failure at 30 days)*

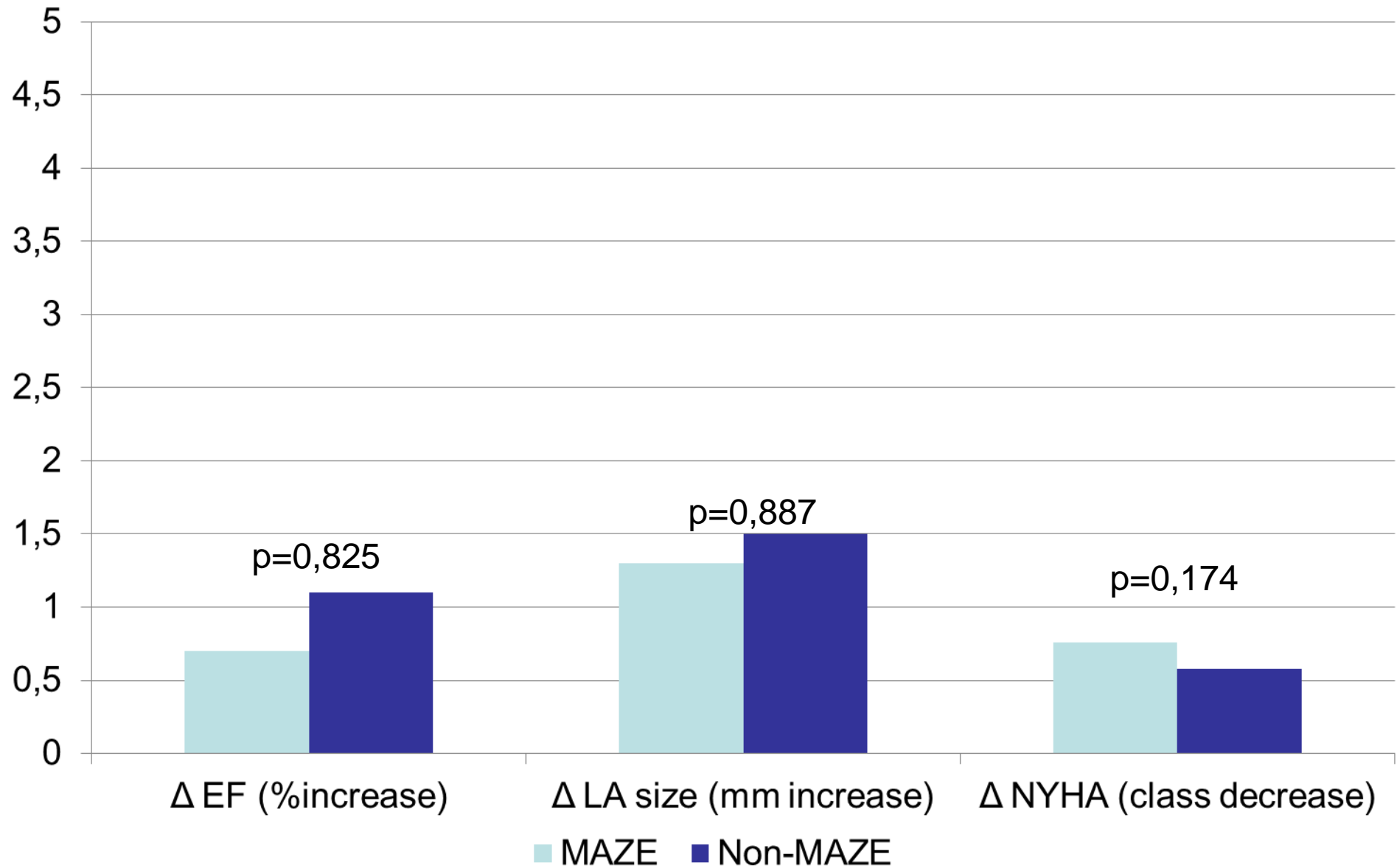


# Long-term adverse events

*(Death/ major bleeding/ stroke/ hospitalization for heart failure after 1 year)*



# Secondary outcomes at 1 year



# Conclusions

- (1) Surgical ablation improves the likelihood of SR presence up to 1 year postoperatively**
- (2) Without perioperative complications**
- (3) No impact on 1-year clinical outcomes**







Procedural characteristics	MAZE (n = 117)	Non-MAZE (n = 105)	p-value
Duration of surgery (min)	<b>220 (180-255)</b>	<b>200 (165-240)</b>	<b>0.003</b>
Cross-clamp time (min)	<b>78 (46-96)</b>	<b>51 (31.5-73)</b>	<b>&lt;0.001</b>
Postoperative sinus rhythm	<b>69 (59.0 %)</b>	<b>79 (75.2 %)</b>	<b>&lt;0.001*</b>
Postoperative atrial fibrillation	<b>12 (10.3 %)</b>	<b>16 (15.2 %)</b>	
Postoperative epicardial stimulation	<b>36 (30.8 %)</b>	<b>10 (9.5 %)</b>	
Blood loss (ml)	<b>680 (150-1115)</b>	<b>705 (115-2145)</b>	<b>0.565</b>



<b>Beta-blocker</b>	<b>90 (76.9)</b>	<b>85 (79.4)</b>
<b>Amiodaron / Propafenon</b>	<b>22 (18.8)</b>	<b>19 (17.8)</b>
<b>Digoxin</b>	<b>30 (25.6)</b>	<b>24 (22.4)</b>
<b>Warfarin</b>	<b>81 (69.2)</b>	<b>69 (64.5)</b>
<b>Aspirin</b>	<b>41 (35.0)</b>	<b>33 (30.8)</b>



**117 allocated to surgery + ablation**

**117 operated**

**116 (99,1%) included in 30-days analysis  
1 refused**

**111(99,1%\*)included in one-year analysis  
1 refused  
5 not reached**

**107 allocated to surgery alone**

**105 operated  
2 not operated**

**102 (97,1%) included in 30-days analysis  
3 refused**

**92 (95%\*)included in one-year analysis  
5 refused  
8 not reached**

<b>30-day outcomes</b>	<b>MAZE (n = 116)</b>	<b>Non-MAZE (n = 102)</b>	<b>p-value</b>
<b>Revision for bleeding</b>	<b>10 (8.6 %)</b>	<b>9 (8.8 %)</b>	<b>1.000</b>
<b>Other major bleeding complication</b>	<b>5 (4.3 %)</b>	<b>6 (5.9 %)</b>	<b>0.759</b>
<b>Respiratory insufficiency with reintubation</b>	<b>3 (2.6 %)</b>	<b>8 (7.8 %)</b>	<b>0.119</b>
<b>Heart failure with rehospitalization</b>	<b>14 (12.1 %)</b>	<b>14 (13.7 %)</b>	<b>0.840</b>
<b>Pacemaker implantation</b>	<b>7 (6.0 %)</b>	<b>1 (1.0 %)</b>	<b>0.070</b>
<b>Death</b>	<b>9 (7.8 %)</b>	<b>9 (8.8 %)</b>	<b>0.809</b>
<b>Myocardial ischemia</b>	<b>2 (1.7 %)</b>	<b>2 (2.0 %)</b>	<b>1</b>
<b>Stroke</b>	<b>2 (1.7 %)</b>	<b>4 (3.9 %)</b>	<b>0.422</b>

<b>Post-operative antiarrhythmic medication</b>	<b>MAZE</b>	<b>Non-MAZE</b>	<b>p-value</b>
<b>Discharge, n (%)</b>	<b>n = 111</b>	<b>n = 100</b>	
<b>beta-blockers</b>	<b>64 (58%)</b>	<b>67 (67%)</b>	<b>0.162</b>
<b>antiarrhythmics</b>	<b>91 (82%)</b>	<b>76 (76%)</b>	<b>0.285</b>
<b>digitalis</b>	<b>9 (8%)</b>	<b>7 (7%)</b>	<b>0.761</b>
<b>Day 30, n (%)</b>	<b>n = 107</b>	<b>n = 93</b>	
<b>beta-blockers</b>	<b>74 (69%)</b>	<b>69 (74%)</b>	<b>0.431</b>
<b>antiarrhythmics</b>	<b>80 (75%)</b>	<b>62 (67%)</b>	<b>0.207</b>
<b>digitalis</b>	<b>10 (9%)</b>	<b>6 (7%)</b>	<b>0.451</b>
<b>Year 1, n (%)</b>	<b>n = 93</b>	<b>n = 76</b>	
<b>beta-blockers</b>	<b>67 (72%)</b>	<b>59 (78%)</b>	<b>0.406</b>
<b>antiarrhythmics</b>	<b>29 (31%)</b>	<b>17 (22%)</b>	<b>0.200</b>
<b>digitalis</b>	<b>10 (11%)</b>	<b>12 (16%)</b>	<b>0.333</b>