

Pacemaker implantation following mitral valve surgery and preoperative bundle branch block

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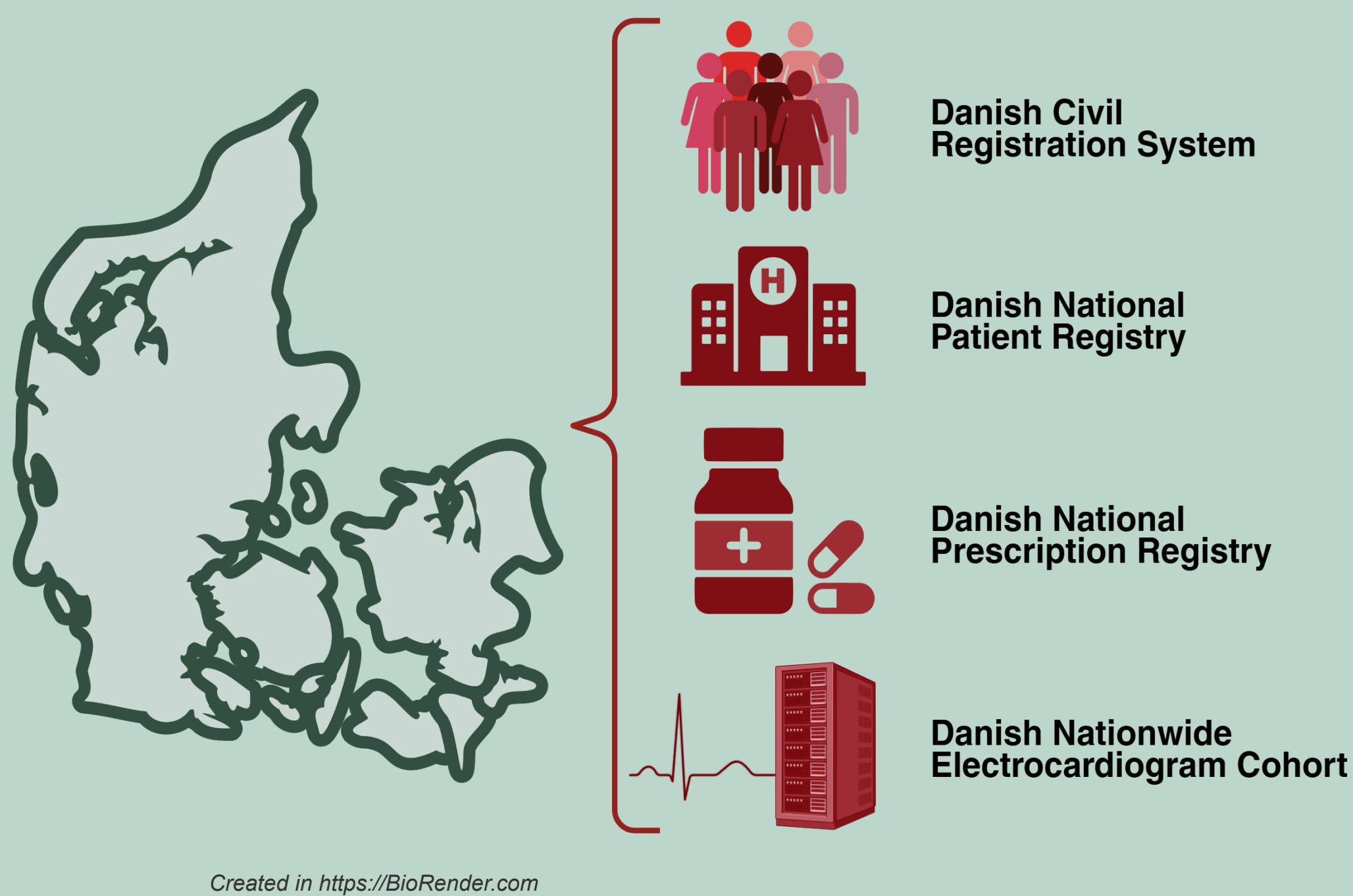
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1. BACKGROUND/ PURPOSE

In patients undergoing aortic valve surgery, preoperative bundle branch block (BBB) has been associated with increased risk of permanent pacemaker (PPM) implantation, but data in mitral valve surgery is scarce. We aimed to investigate the association between **preoperative BBB** and the **risk of PPM implantation** following mitral valve surgery for mitral valve regurgitation in a nationwide cohort.

2. METHODS

Figure 1. Four Danish nationwide registries were used as data sources



Population: 2,669 Danish patients ≥ 18 years undergoing mitral valve surgery for mitral regurgitation between 2011-2021 with an available electrocardiogram within ≤ 6 months prior to surgery

Exclusion criteria: Previous cardiac implantable device
 3rd degree atrioventricular block

Outcomes:

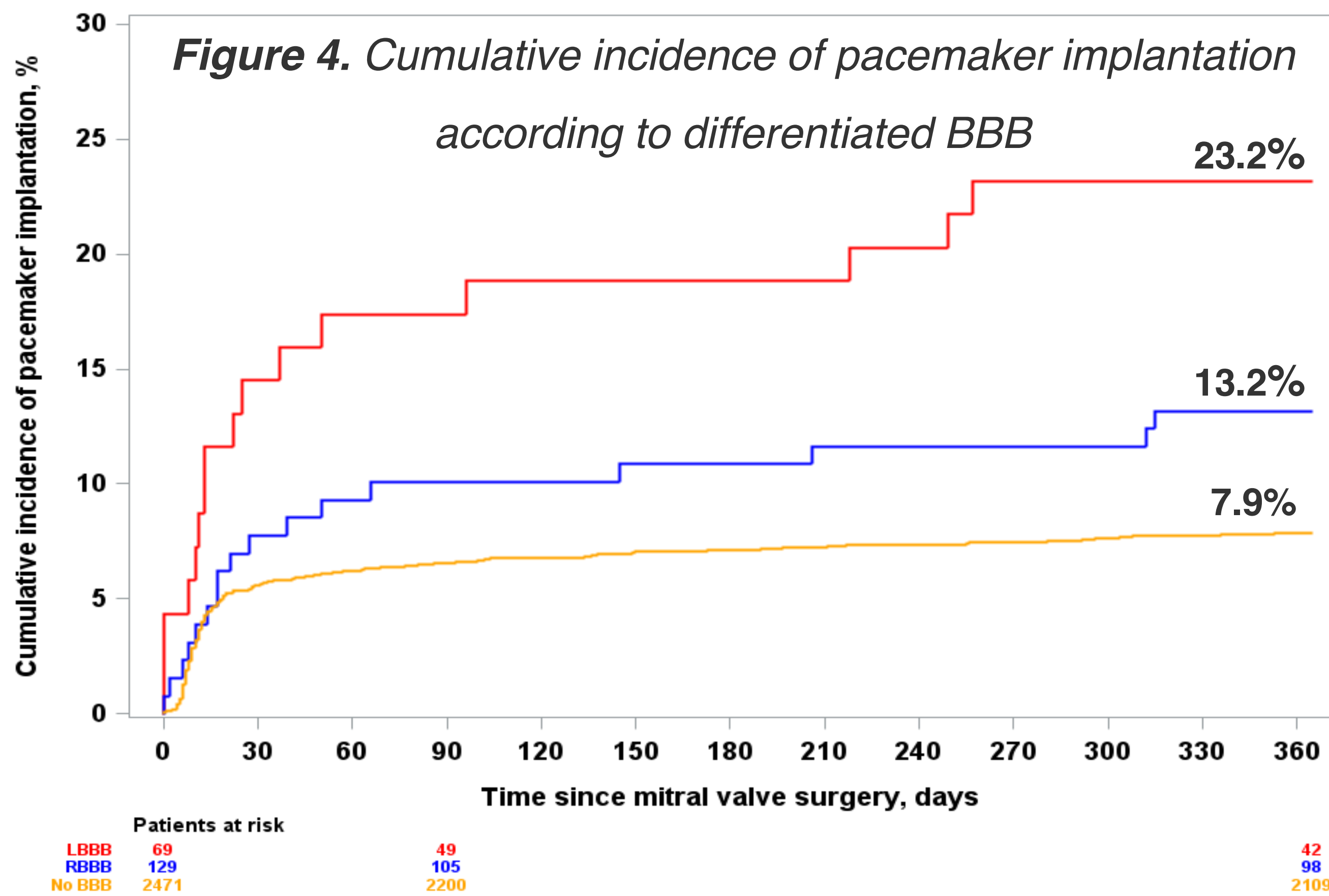
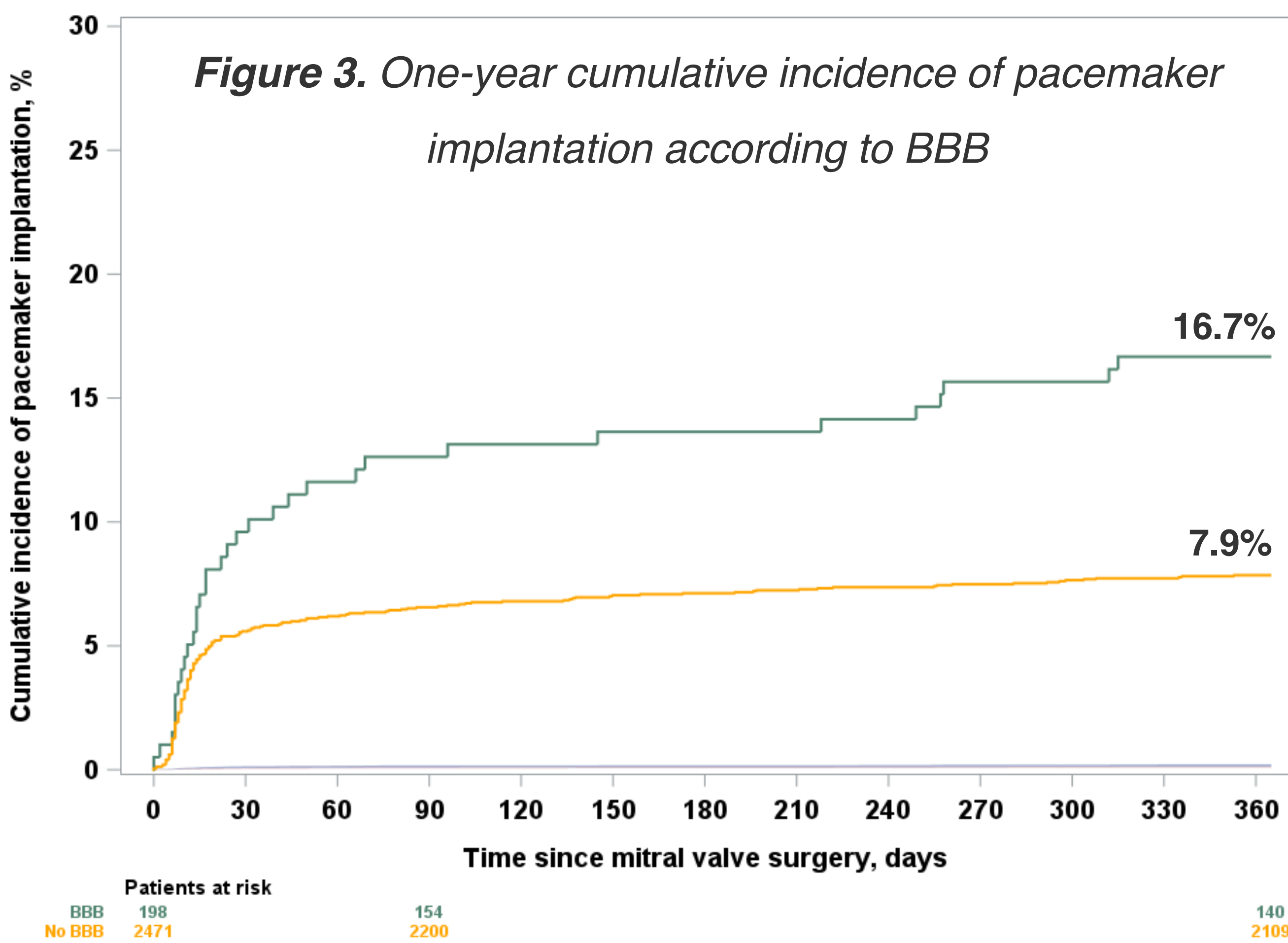
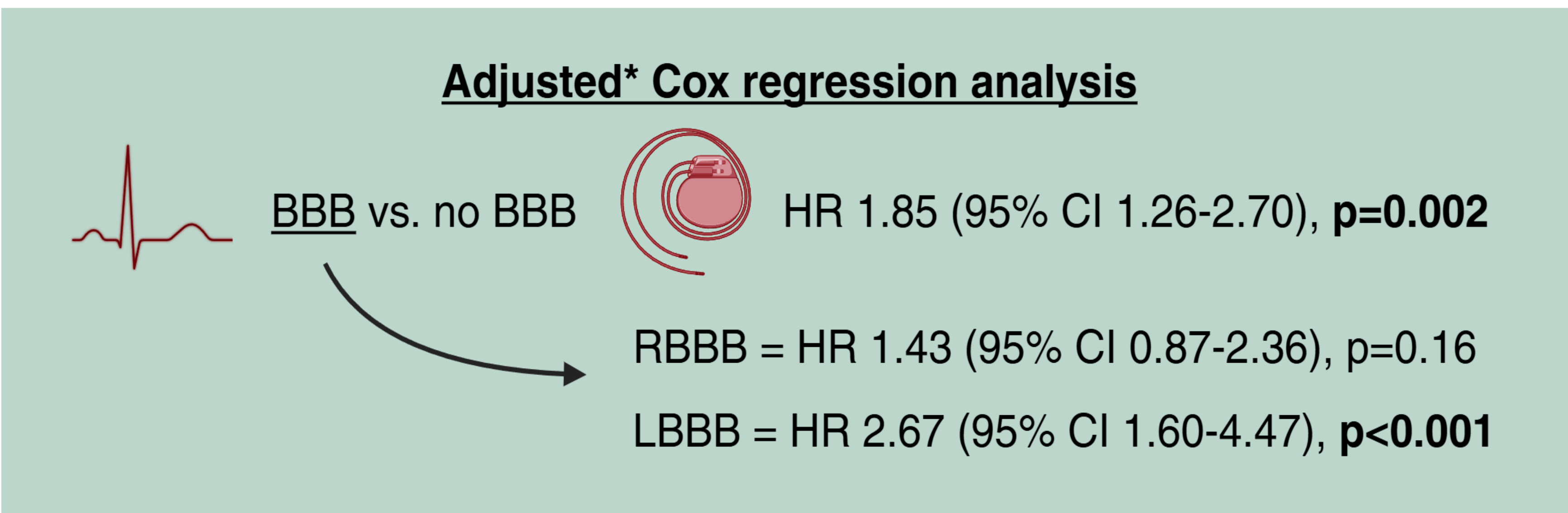
- Cumulative one-year incidence of PPM implantation
- Hazard ratio for PPM implantation \leq one year of surgery

3. RESULTS

Figure 2. Study population stratified according to presence/absence of BBB

Patients with BBB, n=198 (7.4%)		Patients without BBB, n=2,471 (92.6%)	
Older 74.2 years (68.3-78.2)		Younger 68.5 years (59.3-75.1)	
More often male (76.3%)		Less often male (67.1%)	
Cardiovascular comorbidities Chronic kidney disease Malignancy		Cardiovascular comorbidities Chronic kidney disease Malignancy	
Mitral valve repair (45.0%) Bioprosthesis (31.8%) TEER (18.7%)		Mitral valve repair (64.2%) Bioprosthesis (20.1%) TEER (9.6%)	
 Concomitant surgery: Aortic valve (19.2%) Tricuspid valve (20.2%) Ablation (9.1%)		Concomitant surgery: Aortic valve (10.2%) Tricuspid valve (13.9%) Ablation (17.7%)	

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4. CONCLUSION

In patients undergoing mitral valve surgery, the presence of preoperative bundle branch block in the electrocardiogram is associated with higher risk of postoperative pacemaker implantation, seemingly driven by left-sided bundle branch block.

CONTACT INFORMATION

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