

Natural history of tricuspid regurgitation and correlation with right ventricular function

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Introduction: Moderate and severe tricuspid regurgitation (TR) affects about 4% of people older than 75 years. Depending on etiology, it can be divided into primary, secondary (observed in more than 90 % of cases) and TR due to pacemaker lead implantation^{1,2}. Although severe TR exhibits high mortality, long-term cardiovascular risk in specific subgroups remains unknown. Purpose of this pilot study was to evaluate differences in survival among population with significant TR and variable clinical risk profiles.

Patients and Methods: Single center retrospective study was conducted. Consecutive patients referred to UHC Zagreb for echocardiography, with moderate or severe tricuspid regurgitation diagnosed on initial exam in the period from 2011 to 2017 were included (**Figure 1**). Demographic characteristics, echocardiography findings and clinical outcomes were analyzed. Patients were categorized by TR etiology, left ventricular ejection fraction (LVEF), pulmonary artery hypertension, TAPSE (tricuspid annular plane systolic excursion), and tricuspid valve surgery (**Figure 2**).

Results: 50 patients were enrolled (mean age 71.68±13.45 years, 62% female). There was no significant difference in cardiovascular (CV) mortality regarding TR etiology and LVEF. However, significant correlations between CV mortality and pulmonary artery hypertension (PAH) (p=0.039), TAPSE (p=0.049) and in TAPSE <17 mm (p=0.015) were observed. Besides, odds for CV mortality were 4 time greater in

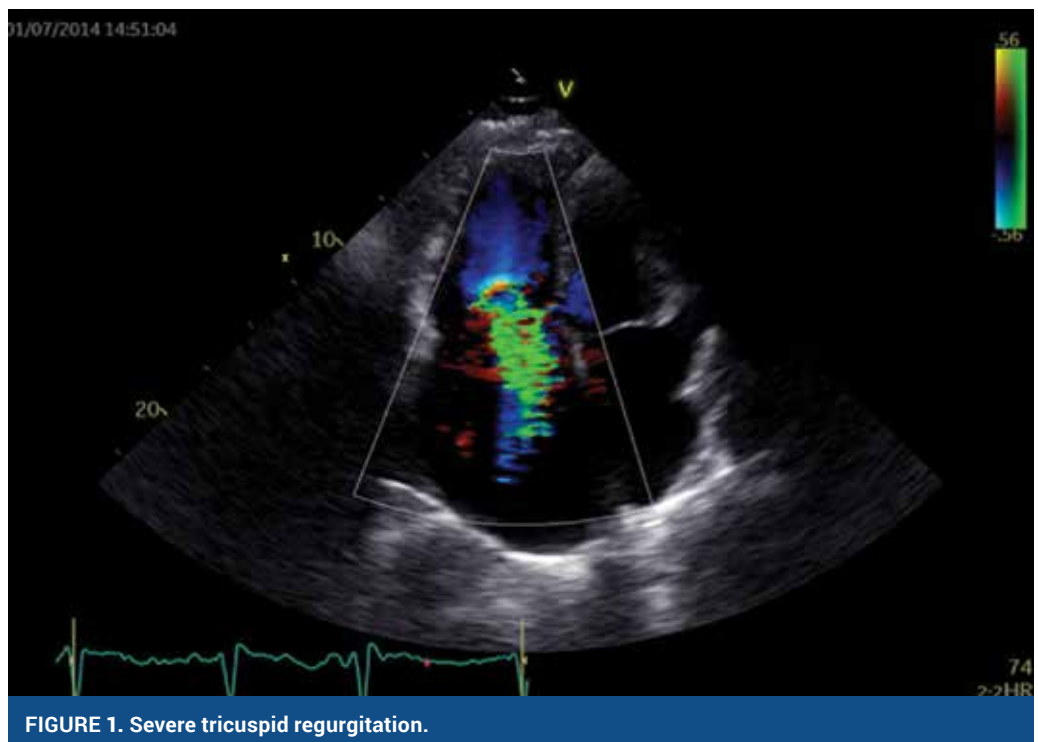


FIGURE 1. Severe tricuspid regurgitation.

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patients with TAPSE <17 mm (OR 4.3, 95% CI:1.3-14.5; **Figure 3**) and 5 times greater in patients to whom TV surgery was not performed during 6-years follow-up period (OR 5.3, 95% CI: 1.5-18.3; **Figure 4**).

Conclusion: We found that pulmonary hypertension, right ventricular dysfunction and lack of tricuspid valve intervention are associated with higher mortality. Appropriate timing for TV surgery, especially in patients referred for left-sided valve surgery could improve patient outcomes.

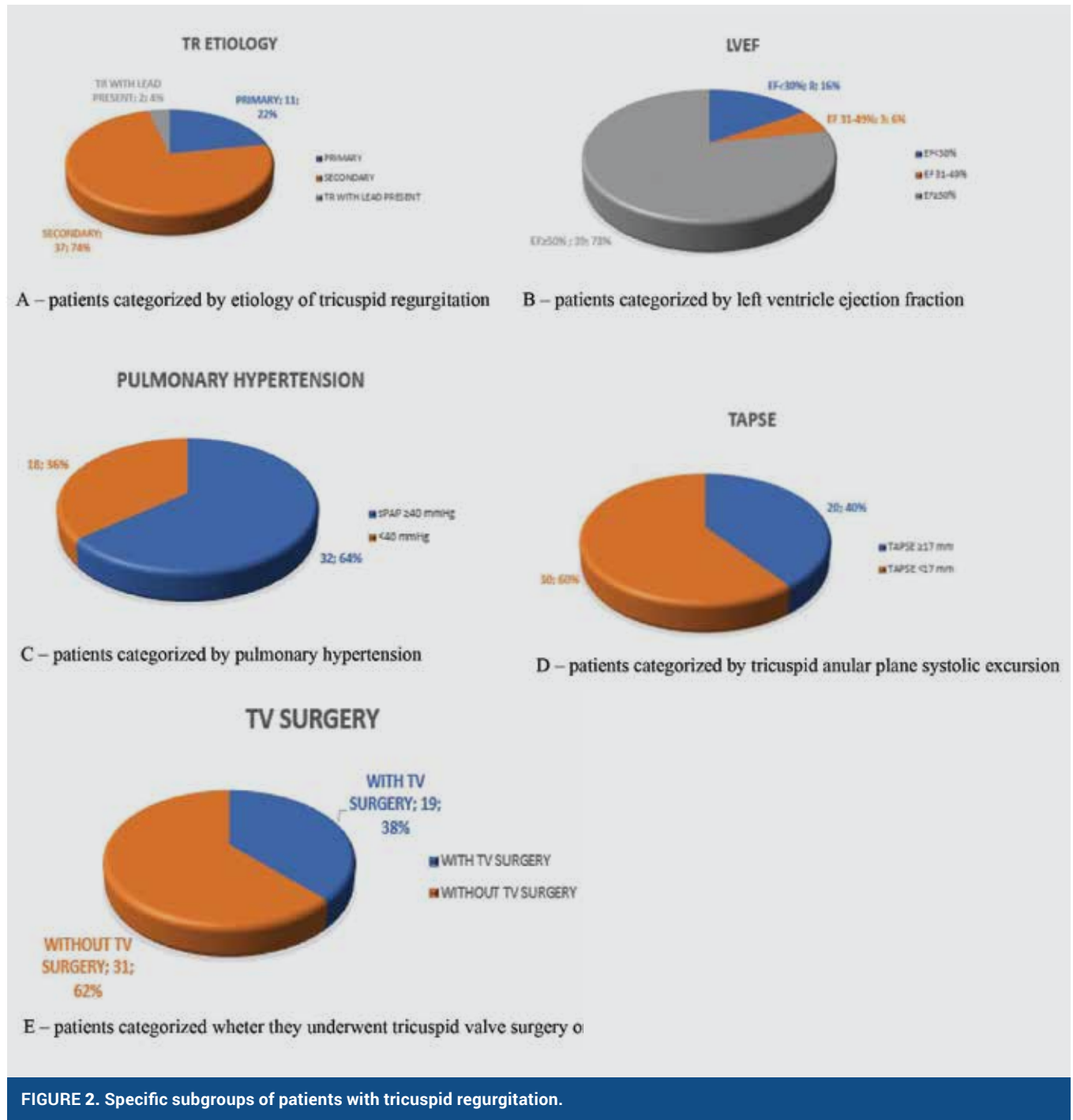


FIGURE 2. Specific subgroups of patients with tricuspid regurgitation.

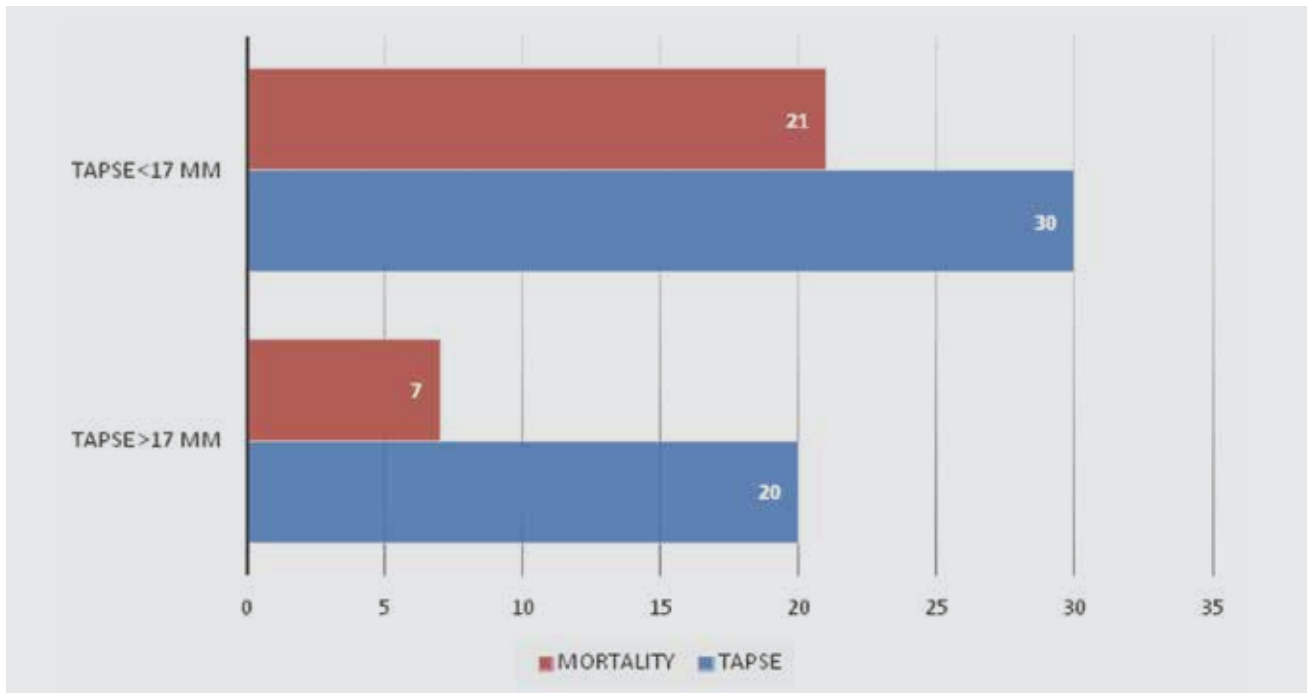


FIGURE 3. Differences in survival between patients with tricuspid annular plane systolic excursion, cut-off value 17 mm.

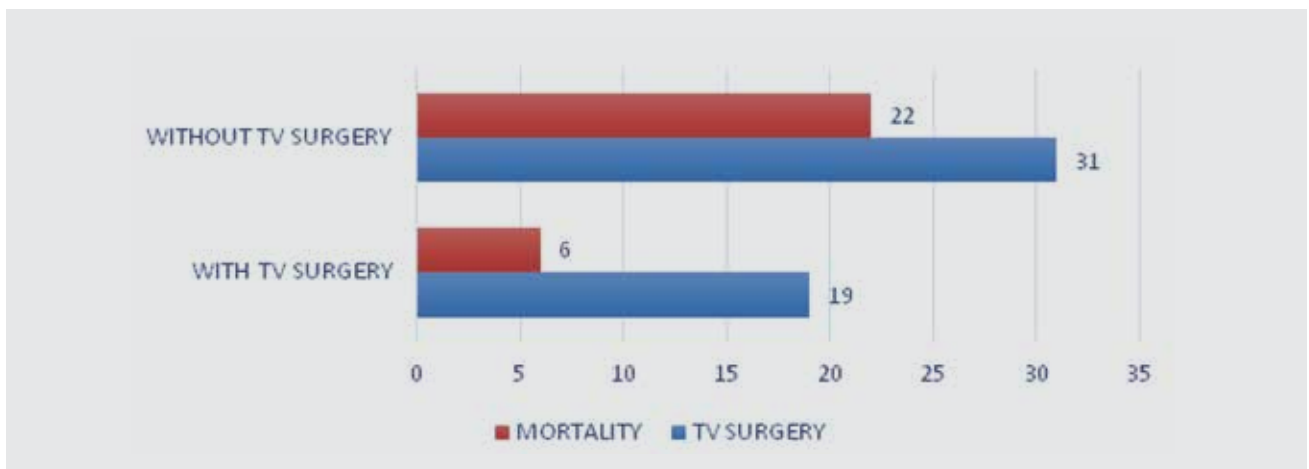


FIGURE 4. Differences in survival between patients with and without tricuspid valve surgery.

LITERATURE

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