













Can estimated plasma volume status predict outcomes in patients undergoing transcatheter aortic valve intervention? A single-centre registry-based study

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Introduction: Transcatheter aortic valve intervention (TAVI) has been accepted as an alternative strategy for treating severe aortic valve stenosis (AS)¹. Congestion can worsen outcomes after TAVI and covert congestion can be indirectly assessed by estimated plasma volume status (ePVS)². *Aim:* to assess is high ePVS associated with higher all-cause mortality and major adverse cardiac events (MACE) in short-term (30 days) and long-term (12 months) follow up.

Patients and Methods: We included patients treated in Dubrava University Hospital from December 2010 to September 2023, who underwent TAVI due to severe AS. We used Strauss-derived Duarte formula (EPVs= (100-hematocrit (%)) ÷ hemoglobin (g/L)) to estimate PVS values at the baseline (iePVS) and two days after TAVI procedure (pePVS). MACE included stroke, bleeding, worsening heart failure (HF) and acute coronary syndrome (ACS).

Results: This study included 366 patients, median age 80 years, 48% female. Median iePVS was 5.598 (IQR 5.173-6.251) and median pePVS was 6.654 (IQR 6.227-7.375). Values of ePVS higher than median were considered as high. Patients with high iePVS had no significant difference in all-cause mortality or MACE during the short or long term follow up compared to those with low iePVS (p=0.960 for short-term and p=0.357 for long-term all-cause mortality, p=0.414 for short-term and p=0.414 for long-term MACE). However, patients with high pePVS had statistically significant higher all-cause mortality rate compared to patients with low pePVS (p=0.030) in long term follow up. Short term survival was similar in both groups (p=0.373). There was no significant difference in MACE in short (p=0.981) or long-term (p=0.296) follow up between the groups.

Conclusion: Our results suggest that initial ePVS did not prove to be prognostic for the adverse short- or long-term outcomes of TAVI patients. Postprocedural ePVS predicted higher all-cause mortality in long-term follow up.

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LITERATURE

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