Impact of transcatheter aortic valve replacement on anemia: new approach to Heyde's syndrome

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Background: There is an association between aortic stenosis and anaemia known as Heyde's syndrome. It is caused by an acquired von Willebrand (VW) deficiency related to turbulent flow. Patients with significant paravalvular leak (SPL) remain with VW deficit. The aim of this work is to assess impact on prognosis and anaemia of SPL.

Methods: Observational analytic study developed at two university hospitals, including all consecutive patients who underwent TAVI during a 10-year period (2009 to 2018). A logistic regression model was created to determine independent predictors of anaemia at 3 months. Time to event outcomes were analysed with Cox regression. Median follow-up was 21.3±21.9 months.

Results: 5.3% of 788 patients had SPL, with no differences on their basal characteristics compared to the rest of the cohort. SPL was an independent predictor of anaemia 3 months after TAVI (Odds Ratio: 8.31, Confidence Interval 95% [CI]: 2.06–33.50).

SPL had negative impact on mortality: Hazard Ratio (HR): 1.85, CI 1.2–2.9; but not on cardiovascular mortality (CV): HR 1.13, CI 0.4–3.1. Patients who had anaemia three months after TAVI had an increased mortality. (HR 2.17, CI 1.5–3.3)

Conclusion: SPL after TAVI increases mortality with no impact on CV mortality. SPL is independent predictor of anaemia 3 months after TAVI, a condition that doubles the mortality. The impact of SPL on mortality could be explained by the increase in anaemia that SPL causes. More aggressive approach to SPL could have a benefit on prognosis.

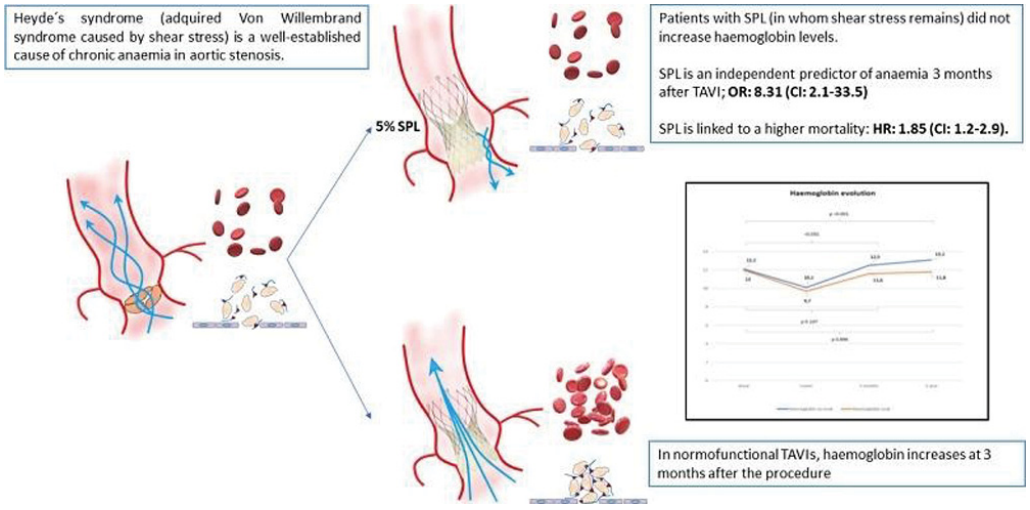

Figure 1