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Letter to the Editor

# In searching for prognostic markers in transcatheter aortic valve replacement: Diastolic dysfunction and insulin-like growth factor system assessment

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The study by Muessig et al. [1] raised an interesting issue by proposing insulin-like growth factor binding protein (IGFBP)-2 as a biomarker for prognosis in transcatheter aortic valve replacement (TAVR). The authors showed that IGFBP-2 was a predictor for 30-day and 1-year mortality but also its plasma levels >275 ng/ml outperformed EUROSCORE>20 and STS-score > 8 for 1-year mortality.

Could this prognostic function of IGFBP-2 be linked to the heart failure (HF) assessment [i.e. diastolic dysfunction (DD) estimation] of the TAVR population [1]? Patients had a mean ejection fraction (EF) of 56.7% and IGFBP-2 was well correlated with brain natriuretic peptide, pulmonary artery pressure and NYHA class, that are all closely related to DD (in context of HF with preserved EF), which in turn seems to be associated with mortality after TAVR [2]. Should the authors have estimated DD at baseline; a further analysis and the correlation with IGFBP-2 would be of importance.

Insulin-like growth factor (IGF)-system is involved in the vicious cycle of HF. Specifically, IGFBPs have the potential to be used as biomarkers and to monitor interventions [3,4]. We have shown that local expression of IGF-1 isoforms and IGFBP-3 in skeletal muscle was associated with exercise capacity of HF patients [5]. Interestingly, plasma concentrations of IGFBP-7 were well correlated with diastolic function indices [3,4], exercise capacity (IGFBP-7 and IGFBP-3) [4,5] and prognosis [3] in patients with HF and preserved EF.

Overall, DD assessment of TAVR population and IGF-system alterations, could represent surrogate prognostic markers in searching for TAVI-oriented risk scores.

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