

P4730

Underweight is associated with unfavourable short- and long-term outcomes after MitraClip therapy: a body mass index derived subgroup analysis of the German Transcatheter Mitral Valve Interventions (

D. Kalbacher¹, E.P. Tigges¹, P. Boekstegers², M. Puls³, B. Plicht⁴, H. Eggebrecht⁵, G. Nickenig⁶, R.S. Von Bardeleben⁷, C.S. Zuern⁸, J. Franke⁹, H. Sievert⁹, T. Ouarrak¹⁰, J. Senges¹⁰, E. Lubos¹

¹University Heart Center Hamburg, Hamburg, Germany; ²Helios Hospital Siegburg-Bonn, Siegburg, Germany; ³Georg-August University, Göttingen, Germany; ⁴Herzzentrum Westfalen, Cardiology Clinic, Dortmund, Germany; ⁵CardioVascular Center Bethanien (CCB), Frankfurt am Main, Germany; ⁶University Hospital Bonn, Bonn, Germany; ⁷Johannes Gutenberg University Mainz (JGU), Mainz, Germany; ⁸Eberhard-Karls University of Tübingen, Tübingen, Germany; ⁹CardioVascular Center Frankfurt, Frankfurt am Main, Germany; ¹⁰Stiftung Institut für Herzinfarktforschung, Ludwigshafen, Germany

Funding Acknowledgement: The TRAMI registry has been supported by proprietary means of IHF. Additional funding is provided by "Deutsche Herzstiftung" and a grant from Abbott.

Background: Underweight and obesity represent classical risk factors for patients undergoing cardiac surgery or interventional treatment. The multicentre German Transcatheter Mitral Valve Interventions (TRAMI) registry comprises a large and prospectively enrolled real-world cohort of patients treated by MitraClip implantation.

Aims: The current analysis examines the impact of underweight, overweight and obesity on intra-hospital, short and long-term outcomes in patients treated by MitraClip therapy.

Methods and results: From 08/2010 until 07/2013, 799 patients (age 75.3±8.6 years, male gender 60.7%, median logistic EuroSCORE 20% [12; 31], functional mitral regurgitation (MR): 69.3%) were prospectively enrolled into the multicentre, industry-independent German Transcatheter Mitral Valve Interventions registry. Patients were stratified according to body mass index (BMI) into four groups: BMI <20 kg/m² (underweight, n=49), BMI 20.0 to <25.0 kg/m² (normal weight, n=293), BMI 25.0 to <30.0 kg/m² (overweight, n=296) and BMI ≥30 kg/m² (obese, n=132). Procedure and radiation time were comparable among all groups. Significant increased

rates of procedural failure (12.2% vs. 2.1 [normal weight], p<0.001), transfusion/bleeding (20.8% vs. normal weight: 5.6%, obesity: 7.0%, p<0.01), sepsis or multiorgan failure and low cardiac output failure were found for underweight patients only. Kaplan-Meier survival curves demonstrated inferior survival for underweight patients, but comparable outcomes for all other patients (global log rank test, p<0.01). Multivariable Cox-regression analysis (adjusted for age, gender, creatinine ≥1.5mg/dl, diabetes, left ventricular ejection fraction <30% and chronic obstructive pulmonary disease) confirmed underweight (as compared to normal weight) as an independent risk factor of death (hazard ratio [HR]: 1.58, 95%-confidence interval (CI): 1.01–2.46, p=0.044) and overweight as protective against death (HR: 0.71; 95%-CI: 0.55–0.93; p=0.011).

Conclusion: Underweight patients are exposed to increased rates of procedural failure, bleeding and low cardiac output as well as increased short- and long-term mortality rates when undergoing MitraClip implantation and should therefore be carefully discussed within the heart team.