

Pulmonary Hypertension in Aortic Valve Stenosis

Micha T. Maeder, Lukas Weber & Hans Rickli

In patients with severe aortic stenosis (AS), pulmonary hypertension (PH) typically is indicative of a decompensated disease state with exhausted compensatory mechanisms of the left ventricle, meaning a heart failure state resulting from AS-related "cardiac injury". In the present review article, we discuss new insights into the pathophysiology of AS-induced PH, the prognostic impact, and potential options to prevent and treat PH in this setting. We emphasize recent data from studies focused on invasive hemodynamics in patients with severe AS that are being evaluated for aortic valve replacement, particularly the key relevance of combined pre- and post-capillary PH. This latter represents an advanced form of cardiac injury that is often associated with right ventricular dysfunction and poor prognosis. Given this context, we highlight the relevance of performing right heart catheterization in combination with non-invasive imaging for the comprehensive assessment of AS patients that are being evaluated for aortic valve replacement. Such comprehensive assessment plays a key role not only to precisely define the extent of AS-related cardiac injury but also to distinguish those PH forms that are unrelated to AS.

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