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Course of contained annulus ruptures after TAVI: the ENCORE(european contained rupture)-registry

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Topic(s): Aortic Valve Intervention

Citation:

Background: An asymptomatic contained rupture (CR) of the aortic annulus is a rare complication of transcatheter aortic valve implantation (TAVI). Their clinical implication is unclear so far.

Purpose: To determine the long-term outcomes in patients with CR.

Methods: The ENCORE-registry is a multicenter registry (6 centers across Europe) of patients with CR diagnosed on post-TAVI computed tomography angiography (CTA) or transesophageal echocardiography (TEE).

Results: A total of 21 patients (mean age 81.9±4.1 years, 81% balloon-expandable TAVI-prostheses) were diagnosed with CR (62% located adjacent to the left coronary cusp, mean size of lesions was 15.3±6.9 x 8.5±3.3 x 8.5±2.3 mm). Seventeen were diagnosed among a total of 1602 consecutive routine post-TAVI CTA (incidence 1.1%), two in TEE and two in post-TAVI CTA (each conducted due to suspicion of perinterventional complications). During a mean follow-up of 2.3±1.7 years nine patients (43%) died from non-cardiac causes. None of the patients exhibited symptoms or underwent interventional treatment related to the CR, no sudden cardiac death occurred. A follow-up CTA, performed in eleven patients 240±176 days post-TAVI, revealed stable CR findings in seven, regression in one, and remission in three patients.

Conclusion: The results of our ENCORE-registry demonstrate a benign course of initially asymptomatic contained ruptures of the aortic annulus after TAVI supporting a watch-and-wait approach in these patients. Thus, no specific treatment seems to be necessary.