

High post-procedural transvalvular gradient or delayed gradient increase after transcatheter aortic valve implantation: the FRANCE-2 registry

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Background: Mean gradient (MG) elevation can be detected immediately post-procedure or secondarily during follow-up. Comparison between these two parameters and impact on outcomes has not previously been investigated.

Objectives: The study aimed to identify incidence, influence on prognosis and parameters associated with immediate high post-procedural mean transvalvular gradient (PPMG) and delayed mean gradient increase (DMGI), in the FRANCE 2 (French Aortic National CoreValve and Edwards 2) registry.

Methods: The registry includes all consecutive symptomatic patients with severe aortic stenosis. Three groups were analyzed: 1) PPMG <20mmHg without DMGI >10 mmHg (control); 2) PPMG <20mmHg with DMGI >10 mmHg (group 1); 3) PPMG ≥20 mmHg (group 2).

Results: From January 2010 to January 2012, 4201 consecutive patients were prospectively enrolled in the registry. The control group comprised 2078 patients; the group 1, 131 patients; and the group 2, 144 patients. DMGI exceeded 10 mmHg in 5.6%, and was not associated with greater 4-year mortality than in control group (32.6% vs. 40.1%, $p=0.27$, respectively). PPMG was at least 20 mmHg in 6.1%, and was associated with higher 4-year mortality than in control group (48.7% versus 40.1%, $p=0.005$, respectively) (Figure 1). Two-thirds of patients with initial PPMG ≥20 mmHg had finally a MG <20 mmHg at 1 year, with mortality similar to controls (39.2% vs. 40.1%, $p=0.73$).

Conclusions: Patients with PPMG >20 mmHg 1 year post-TAVI had higher 4-year mortality than the general population of the registry, unlike patients with MG normalization at 1 year.

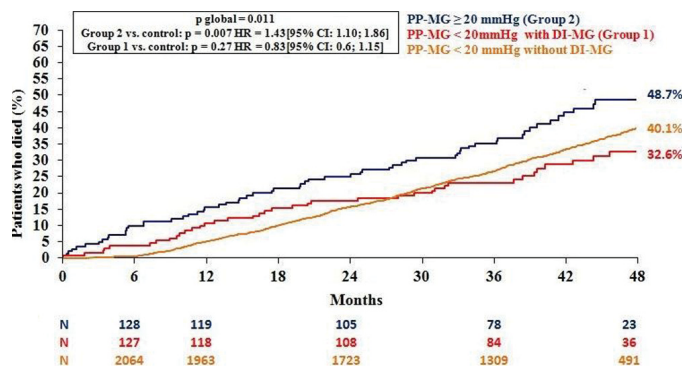


Figure 1