Long-term outcome of patients with invasive electrophysiology procedure related cardiac tamponade

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Topic(s):
Catheter Ablation of Arrhythmias

Aims: Iatrogenic cardiac tamponades are a rare but dreaded complication of invasive electrophysiology procedures (EPs). Their long-term impact on clinical outcomes is unknown. This study analyzed the risk of death or serious cardiovascular events in patients suffering from EP related cardiac tamponade requiring pericardiocentesis during long-term follow-up.

Methods and Results: Out of 19997 invasive EPs at our university hospital between January 1998 and September 2018, all patients with EP related periprocedural cardiac tamponade were identified (n=60) and matched (1:3 ratio) to a control group (n=180). After a follow-up of 5 years, the composite primary end point - death from any cause, acute myocardial infarction, TIA/stroke and hospitalization for heart failure - occurred in significantly more patients in the tamponade than in the control group (12 patients (20.0%) vs 19 patients (10.6%); Hazard ratio (HR) 2.53 (95%CI, 1.15 - 5.58); p=0.021). This was mainly driven by a higher incidence of TIA/stroke in the tamponade than in the control group (HR 3.75 (95%CI, 1.01 - 13.97); p=0.049). Death from any cause, acute myocardial infarction and hospitalization for heart failure did not show a significant difference between the groups. Hospitalization for pericarditis occurred in significantly more patients in the tamponade than in the control group (HR 36.0 (95%CI, 4.68 – 276.86); p=0.001).

Conclusion: Patients with EP related cardiac tamponade are at higher risk for cerebrovascular events during the first two weeks and hospitalization for pericarditis during the first months after index procedure. Despite the increased risk for early complications tamponade patients have a good long-term prognosis without increased risk for mortality or other serious cardiovascular events.