

Complications of transcatheter atrial septal defect closure

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Over the last three decades the transcatheter closure (TCC) of secundum type Atrial Septal Defect (ASD II) established itself as an alternative to surgical treatment.

Our objective was to assess the safety of the procedure by analyzing retrospectively the complications of the TCC of ASD over a period of 14 years. We divided the complications into 2 groups according to their severity: severe (death, embolization of the device with surgical removal, brain embolization, perforation, erosion, severe hemodynamic disorder, etc.), and mild (embolization with transcatheter retrieval of the device, transient disorders of cardiac rhythm, hematoma at the puncture site, etc.), and into early and late according to the time they originated (before and after the 24th hour).

164 patients with transcatheter closure of ASD II, treated at the National Heart Hospital were followed up retrospectively for a period of 14 years (from 2002 to 2016). We divided the patients into 2 groups according to age- children up to 18 years of age (66%) and adults over 18 years of age (34%).

The procedure has been done to 164 patients. In 3 cases, because the device could not be stabilized, the procedure was cancelled and the patients were referred for scheduled operation. These patients come under the group of mild complications alongside with the cases of pericardial effusion, gastrointestinal bleeding, transient disorders of rhythm (a total of 7 cases) and hematomas in the region of the puncture site- a total of 12 cases Percutaneous retrieval of the embolized device with subsequent TCC with a bigger device was performed in 3 of the cases (2 within the same procedure and 1 as a scheduled second procedure). A total of 25 mild complications have been observed.

In 6 of the cases (3.5%) there were severe complications: fatal outcome in a 69-year-old woman with retroperitoneal hematoma; 4 embolizations necessitated surgical intervention (3 early and 1 late) and acute left ventricular failure with pulmonary oedema in a patient on hemodialysis.

TCC of ASD is a secure and safe method of treatment. The major complications which have occurred are mainly in adults and are related mainly to co-morbidity.