

**Percutaneous versus surgical closure of atrial septal defect; still a battle?**

*Kourkovei P., Kapetanopoulos D., Kantzis M., Kiaffas M., Apostolopoulou S.C., Rammos S.  
Onassis Cardiac Surgery Center, Pediatric Cardiology Department, Athens, Greece*

**INTRODUCTION:** To compare percutaneous as opposed to surgical closure of isolated secundum atrial septal defects in terms of hospital stay, efficacy and complications. **METHODS:** We performed a retrospective study of 108 adult patients (median age 26,37 14,5 years) with isolated atrial septal defect (ASD) treated at our institution between May 2000 and October 2008. Fifty two patients (median age 24,53 14,68 years, 76,9% female) had percutaneous occlusion of their defect (group A) while the remaining fifty six patients (median age 28,07 14,34, 60,7% female) underwent surgical closure (group S). The groups did not differ for age and gender. The follow up period lasted for one year. All patients had their defect successfully corrected. **RESULTS:** There were no postoperative deaths. Hospital stay was shorter in group A (2,691,06 days versus 8,772,94 days  $p < 0,001$ ). The rate of early postoperative complications was higher in group S (71,4% versus 25% in group A). On the contrary there were no statistical significant differences between the two groups in terms of late (one year) complications. The incidence of post defect correction arrhythmias was significantly higher in group S compared to group A. There was significant decrease and in some cases normalization of postclosure right ventricular size by both methods (8,57,3 mm, 25% in group A, versus 13,796,59 mm, 35% in group S). The regression though occurred early (six months) in group A, while in group S regression was observed after six months of follow up (late remodelling). **CONCLUSIONS:** Percutaneous ASD closure is a rather safe technique that provides, in expert hands and in highly specialized centers, shorter hospital stay, lower postoperative complication rate, and earlier cardiac remodelling compared to surgical closure.