Small ventricular septal defect considered not requiring surgical closure; can we wait to develop complications?

Hyder S.N., Kazmi U., Malik A., Razaq A., Qureshi A.U., Sadiq M.
The Children hospital and Institute of Child Health, Lahore, Pakistan.

Objectives:
The purpose of the study was to assess the outcome of patients with small ventricular septal defects (VSDs) considered not to require surgical closure during childhood.

Methods:
A descriptive study was conducted on children undergoing echocardiography from January 2008 to December 2011 at Children Hospital and Institute of Child health, Lahore. The data with isolated VSD considered too small to require surgery during childhood as defined by gradient across VSD more than 50mm of Hg, normal LVEDd according to age, size less than 3mm, no PR and asymptomatic, on all children below 15 years was reviewed. The data was analyzed with SPSS 16 version.

Results:
The total of 883 patients of restrictive VSDs considered not to require surgery, 60.6 % (n=535) were males and 39.4% (n=348) were females. The significant number of patients i.e. 18.7% (n=166) developed complications. Aortic cusp prolapse developed in 13.6% (n=120) p=.001, 2.3% developed aortic regurgitation secondary to aortic cusp prolapsed .1.8% developed right ventricular outflow obstruction (RVOT) p=.021 and 0.3% of patient developed left ventricular outflow track obstruction (LVOT) p=.018. Similarly 0.8% patients developed endocarditis. Regarding types of VSD, we found Perimembranous in 65.8%, muscular in 12.6%, Subaortic in 8.3%, doubly committed in 6.0%, Inlet in 5% and outlet in 1.7% of patients.

Conclusions:
Although patients with small VSDs have generally been considered not to require surgery, data suggests that a significant percentage of these patients developed complications later in their life i.e., 18.7%.

Keywords: Ventricular septal defect, Aortic cusp prolapse, Aortic regurgitation, Right ventricular outflow track obstruction, Left ventricular outflow track obstruction.