The outcomes of children presenting with isolated ventricular septal defects

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Aims: To analyze the closure rate of isolated ventricular defects in a cohort of 219 children; identifying trends relating to type and size of the defect, gender and age of the patient; and compare rates of endocarditis in these patients after the change in NICE guidance for endocarditis prophylaxis (2008).

Design: A retrospective study of all patients with isolated ventricular septal defects attending new or follow up for Paediatric Cardiology between January 2006 and May 2014 at Royal Preston Hospital. Those children with more complicated defects, including atrioventricular septal defects, coartation of the aorta and tetralogy of Fallot’s were excluded from the study due to differences in management and outcomes. Data collected from clinic notes of patients were included in the study criteria.

Results: 90 patients had perimembranous defects and 125 patients had muscular defects. 35% of the cohort had spontaneously closed defects. By 16 years of age, 48% of VSDs have closed spontaneously, although 93% of spontaneous closures occurred by 8 years of age. All patients requiring medical treatment or surgical closure had perimembranous and larger defects (>2 mm). 75% of patients with associated genetic conditions had perimembranous defects. 1% of patients had bacterial endocarditis.

Conclusions: Factors reducing the likelihood of spontaneous closure of ventricular septal defects include those patients older than 8 years of age, those with perimembranous defects or defects which are larger than 1 mm. The change in NICE guidance for endocarditis prophylaxis (2008) has not increased the rates of bacterial endocarditis developing in patients with isolated ventricular septal defects.

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