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Infective endocarditis in a contemporary adult congenital heart disease cohort

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Background: Infective endocarditis (IE) is a life-threatening complication that may impair significantly the long-term prognosis of patients (pts) with cardiac disease. Congenital heart disease (CHD) increases the risk of IE due to the substrate of prosthetic materials and residual lesions usually present. However, the evidence base in these P is limited and the lesion-specific risk and mortality are poorly defined.

Purpose: we sought to analyse clinical course, predisposing factors and long term follow-up of IE in the adult population with CHD followed in our tertiary center.

Methods: We retrospectively reviewed all cases of proven and probable IE (Duke's criteria) in our adult CHD database between 1970 and 2017 of pts with and without prior valve replacement surgery. Epidemiological, clinical and imaging data were analyzed. Predictors of complications, surgical treatment and mortality were assessed using regression analysis.

Results: 89 pts were included (57% males, mean age 43±13 years, mean follow-up of 13,8±10 years). A minority of pts had EI at pediatric age (22,5%). Prior corrective or palliative surgery was performed in 31% and 6%, respectively. The most frequent diagnoses were: ventricular septal defect -VSDs (n=28; 31,5%), bicuspid aortic valve (n=18; 20,2%) and Tetralogy of Fallot (n=10; 11,2%). An echocardiographic demonstration of vegetation was possible in 51% (n=45): aortic valve (n=17), tricuspid valve (n=8), aortic prosthesis (n=6), pulmonary valve (n=4), aortic coarctation (n=2), pulmonary prosthesis (n=1), mitral prosthesis (n=1), aortic conduct (n=1) and pacemaker lead (n=1). A patogen was isolated in 37% of cases, being streptococci (n=16) and staphylococci (n=10) the predominant pathogens. Eleven pts had systemic embolization and 5 pts recurrent episodes. Surgical management was necessary in 40,4% of cases (n=36) in acute phase, 31% of this pts with prior surgery. We didn’t find significant relation between acute and prior surgery. The mortality rate (< 1 year) due to EI was 10,1% (n=9). Mortality were associated with the presence of vegetation at echocardiogram (p=0,030; OR 6,6), with congestive heart failure at presentation (p=0,001; OR 13,5) and with conservative management (20,5% vs 0% mortality; p=0,01; OR 5,06).

Conclusions: In a contemporary adult CHD cohort, IE was more frequent in pts with non-corrected native-valve, particularly those with VSDs and bicuspid aortic valves (which contradicts the current guidelines that excludes them from prophylaxis). Surgical treatment is often necessary and mortality remains substantial however lower than described in general population. The documentation of vegetation, congestive heart failure at presentation and non-surgical management was risk factors for mortality in this cohort.