

# Concomitant surgical repair of a perimembranous ventricular septal defect and mitral regurgitation in an adult

Jednoczesna naprawa ubytku okołobłoniastego przegrody międzykomorowej i niedomykalności zastawki mitralnej u osoby dorosłej

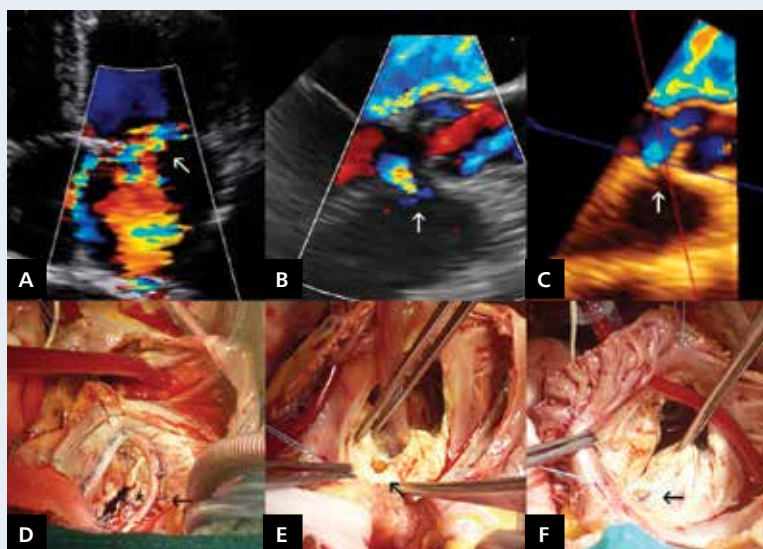
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A 59-year-old woman, with a history of hypertension and hypercholesterolaemia, was referred to our department for the evaluation of a 2 month history of dyspnoea on exertion. On physical examination, only a heart murmur was detected. Laboratory results did not show any abnormalities. The electrocardiography revealed sinus rhythm. An echocardiography was ordered and a perimembranous interventricular septal defect (IVSD) was detected (Fig. 1B, C). In addition, a severe mitral regurgitation as the result of a posterior mitral leaflet prolapse was seen (Fig. 1A). The coronarography did not show abnormal coronary lesions. Right ventriculography confirmed the absence of tricuspid insufficiency but the presence of moderate pulmonary hypertension. The magnitude of shunt was measured with ratio of the volume of pulmonary flow (Qp) and systemic flow (Qs). This gave a magnitude of 1.8, meaning a left-to-right shunt. Through median sternotomy, cardiopulmonary bypass was established under bicaval venous drainage. Once the right atrium was opened, the interventricular communication was seen in the anterior commissure of tricuspid valve. Through trans-septal access, mitral valve was exposed. A quadrangular resection for repair of posterior leaflet prolapse was performed associated with mitral valve ring annuloplasty (Fig. 1D–F). Intraoperative echocardiography monitoring confirmed the closure of the IVSD and the correct function of the mitral valve without leaks. During the postoperative period, a sinus node dysfunction was detected and an endocavitary pacemaker was necessary. The patient was discharged home 10 days postoperatively. Interventricular communication is a congenital malformation frequent in childhood that usually disappears during the first years of life. It is a rare finding in an adult and even more so in asymptomatic patients. Surgical closure is indicated in cases of a large IVSD or before the onset of pulmonary hypertension. The presence of pulmonary vascular resistance is a negative factor in terms of future evolution after surgery. Morbidity or mortality increases and its effect on the prognosis of a patient is even greater in the case of interventricular communication closure.



**Figure 1.** A. Apical 4-chamber echocardiogram view showing severe mitral valve insufficiency (arrow); B. Two-dimensional left parasternal long axis echocardiogram view showing shunt of interventricular communication (arrow); C. Three-dimensional echocardiography image of interventricular septum defect (arrow); D. Intraoperative view of mitral valve repair by quadrangular resection of posterior mitral valve leaflet (asterisk) and ring annuloplasty (arrow); E. Intraoperative view of interventricular septal defect from right atrium (arrow); F. Surgical repair by direct closure of interventricular communication (arrow)

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**Conflict of interest:** none declared