CASE REPORTS

PERSISTENCE OF PULMONARY HYPERTENSION AFTER PERCUTANEOUS ASD CLOSURE – THERAPEUTIC OPTION

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INTRODUCTION

ASD is a one of the most frequent congenital heart disease. Untreated defect can lead the development of pulmonary hypertension. The qualification to the ASD closure in patients with border line pulmonary pressure is difficult. Patients who have developed pulmonary hypertension after percutaneous closure of ASD do not have many therapeutic options apart from pharmacological treatment. In some of these doubtful cases a fenestrated ASD closure device can be useful. This allows the safety valve to be maintained in the event of increasing pressure in the pulmonary circulation and the development of pulmonary hypertension. It allows for controlled residual shunt in the event of critical increase of pulmonary artery pressure[1].

CASE REPORT

We presented 35-year-old woman with ASD treated in another center (no data about pulmonary pressure before intervention). Probably due to increased pulmonary pressure and large the Occlutech fenestrated ASD device was implanted. After a 3 years follow-up the patient's clinical condition worsened. The clinical symptoms of right heart failure occurred and echocardiography revealed features of pulmonary hypertension. The Doppler study showed no flow through the fenestration in the Occlutech device. Diagnostic right heart catheterization was performed and severe pulmonary hypertension was diagnosed PAP 110mmHg & PVR 8wum² (suprasystemic Pulmonary artery pressure). The complex pharmacological therapy was used (Sildenafil, Bosentan, Benprost). Due to the lack of reaction to the applied treatment and the deteriorating condition of the patient, the decision to create interatrial communication was made on 27 Dec 2017. The multipurpose catheter was advanced to the right atrium. After few attempts the catheter could make the way through the occluded fenestration. The catheter and a stiff wire manipulation led to the catheter crossing from the right to the left atrium. Then the soft end of super stiff wire (0.35 " 260 cm) was located to the left upper pulmonary vein followed by the Renal Balloon mounted stent (8 mm x 30 mm) [Cook Medical]. The stent was implanted in the Occlutech device through the fenestration (fig-1). In control echo examination the stent was in the proper position and on color Doppler examination the shunt

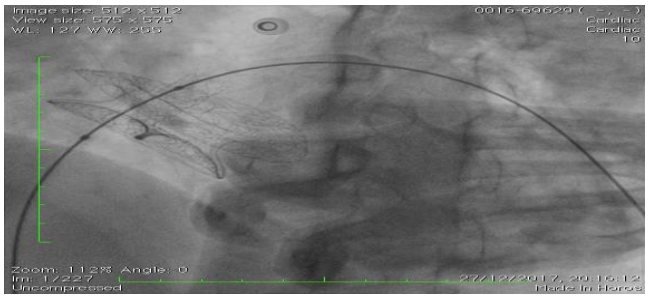

Fig-1: Stent Placed Within ASD Device Fenestrartion.

Fig-2: Echocardiogram showing right to left shunt through stent.

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from right to the left was observed (fig-2). After stent implantation pulmonary artery pressures dropped to subsystemic levels. The clinical status of the lady improved at the cost of desaturation and she is awaiting lungs transplantation, device implantation in severe pulmonary hypertension with increased PVR should not be undertaken.

CONCLUSION

The stent implantation through the ASD device is an alternative palliation option for the patients with severe pulmonary hypertension after percutaneous ASD closure. We believe that stent implantation can be performed even in an unfenestrated (regular) ASD closure devices by transeptal puncture through the device.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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