



Atrial Septal Defect – Forgotten Treatment Guidelines

Dr Suraj Wasudeo Nagre*

Grant Medical College, Mumbai, Maharashtra, India

Editorial

Among the congenital heart diseases, atrial septal defect (ASD) is commonest in children and adults. Most of cases are diagnosed accidentally. The complications of ASD are congestive heart failure, pulmonary hypertension, endocarditis, recurrent respiratory tract infections and arrhythmias treated with diuretics, angiotensin enzyme converter inhibitors, and digoxin [1]. Adults are also at risk of paradoxical embolus from a venous thrombosis [2]. Medical therapy is limited for treatment of complications of ASD, majority of patients finally requires device closure or open surgical patch closure.

Only ostium secundum type of atrial septal defects of sizes 6 mm or smaller in diameter likely to close spontaneously in first year of life [3]. With the advances in cardiac catheterization technique, majority of children are undergoing ASD device closure now a day. So the historical definitive surgical treatment is lagging behind.

Transcatheter approaches of atrial septal defect closure are well accepted universally in all. But only ostium secundum atrial septal defects are closed by this approach. The ideal timing of catheter-based closure is institution/interventionalist specific, but commonly around school going age 4-6 years. Advantages of transcatheter approach are minimal invasiveness, the lack of median sternotomy, the avoidance of cardiopulmonary bypass, and quick recovery time. Potential drawbacks are residual shunting around the device, air embolism, and vascular trauma resulting from large sheath, occlusion of pulmonary or systemic venous return, perforation of the atrial septum, aortic perforation, infective endocarditis, atrial arrhythmia and embolization during placement requiring surgical intervention. The device embolization is a potential life-threatening complication in all and it requires immediate removal via percutaneous or surgical intervention. The common causes for device embolization are undersized ASD device, a small left atrium to accommodate the device, inadequate or floppy rim, and operator-related technical issues. Strict guidelines must be made and followed for device closure of ASD [4].

The small size atrial septal defects are most commonly closed primarily with suture called as direct closure either single or double

layer. For larger size atrial septal defect use of glutaraldehyde treated autologous pericardial patch or double velour dacron patch is advocated. The surgery is usually indicated in children with clinically significant left-to-right shunting and whose defects are not amenable for device closure. For ASD closure in adults DVD patch is preferred because it allows right to left shunting in case of severe pulmonary hypertension. Surgical treatment is safe and effective, but the complications are related to thoracotomy, bleeding, arrhythmia, postpericardectomy syndrome and residual defects. The prognosis for a child with an atrial septal defect is good as compared to adults; the rate of surgical mortality is less than 1% [5]. Newer, minimally invasive surgical techniques like minithoracotomy, ministernotomy are developed. These improve cosmetic appearances, recovery time and decrease hospital stays. These techniques are ideally suited for simple closure of ostium secundum atrial septal defects [6]. Overall however, the medium- to long-term outcomes of ASD closure appear very good if proper guidelines are followed for choosing the treatment options surgical or percutaneous [7].

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***Corresponding author:** Dr Suraj Wasudeo Nagre, Grant Medical College, JJ Hospital Compound, 31 Trimurti Building, Byculla, Mumbai 400008, Maharashtra, India, Tel: 09967795303; E-mail: surajnagre@yahoo.com

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