Transcatheter VSD Closure by Different Devices
Molaei A. MD

Tabriz University of Medical Sciences, Madani Heart Center, Tabriz, Iran Ventricular septal defects (VSDs) account for _20% of congenital heart disease. Defects are classified according to their location within the septum (muscular, perimembranous, or supracrystal). The most common type is the perimembranous VSD (around 70%).
Indications for VSD closure are symptoms of heart failure, signs of left heart chambers volume overload, or a history of endocarditis. In patients with a volume overload of the left heart, closure is necessary to prevent pulmonary arterial hypertension, ventricular dysfunction, and arrhythmias.
The surgical approach is considered to be the gold standard, but it is associated with morbidity and mortality and the use of CPB . Percutaneous techniques have been developed to reduce the impact of such drawbacks of surgery. The attractiveness of percutaneous closure lies in the avoidance of cardiopulmonary bypass and sternotomy, a shorter hospital stay, and decreased cost.
The most significant complication is complete atrioventricular block (4-5%). The only variable significantly associated with the occurrence of this complication was age at the time of the procedure. In contrast, iatrogenic complete heart block after surgical VSD closure occurs in less than 1%. Equally, periventricular device closure of VSDs without cardiopulmonary bypass (CPB) under trans esophageal (TEE) or epicardial echocardiography guidance yields a low risk for rhythm disorders.
Different devices have been used for transcatheter VSD closure: AMPLATZER perimembraneous or muscular VSD occluders, Cardio -SEAL devices. Other devices have been used "off-label" to close muscular as well as perimembranous VSDs, including the buttoned device, detachable coils and the Amplatzer Septal Occluder.
However, these devices as well as the approved Cardio-SEAL device were designed for different indications and as such are not generally adapted to suit the very different anatomical and morphological parameters (such as septal thickness) that are encountered with muscular VSDs.

Ductal Stenting in Complex Cardiac Lesions
Sayadpour Zanjani K. MD

Children's Medical Center, Tehran University of Medical SciencesChildren with diminished pulmonary blood flow (different forms of severe pulmonary stenosis or atresia) suffer from severe life-threatening cyanosis and need interventions to increase this flow. The classic way is a surgical modified BT shunt. However, this operation carries a 10% risk of death and a higher risk of morbidities like chylothorax, phrenic nerve palsy, and others .
A substitute to the surgery is ductal stenting. In many neonates, ductus arteriosus can be left open with the aid of prostaglandins and then by coronary or small peripheral stents to provide enough pulmonary blood flow. The procedure is less traumatic and equally successful. Based on the angle of ductus to the aorta and cardiac anatomy, it can be done via venous or arterial approach. The most fearing complication of the arterial approach is vascular injury which can be reduced almost to nil using small radial sheaths. Heart block is a frequent complication of the venous approach which may fail the procedure. Turtuosity of the ductus with acute angles may hamper its stenting. The whole length of the ductus should be stented; otherwise the unstented areas will contract and diminish the flow. Origin stenosis of the branch pulmonary arteries is a relative contraindication as ductal stenting may obliterate one or both branches.
In summary, ductal stenting is a reliable substitute to surgical shunt in many neonates with diminished pulmonary flow.

Heart Transplant Survival Rate in Iran: A Single-Center Registry Report
Authors: Salehi M., Bakhshandeh AR., Saberi K., Rahmanian M.

Imam Khomeyni hospital, department of cardiac surgery
Abstract Aim: to determine I-month and I-year survival rate in recipients of heart transplants in Imam Khomeini Medical Center.
Methods: we analyzed the outcomes of 69 patients who underwent heart transplantation between 2007 and 2010. The 1-month and 1-year survival rates were calculated, and we assessed prognostic factors such as donor and recipient age and sex, graft ischemic time during surgery, and liver and kidney function tests.
Results: increased donor age had a significant negative effect on survival rate (p=0.005). Sex differences between donor and recipient had no association with transplant outcome and survival rate. The overall 1-month and 1-year survival was 82.6% (n=54) and 70% (n=48), respectively.
Conclusion: heart transplantation is a lifesaving procedure for and-stage heart disorders. Mortality after heart transplantation depends on numerous factors, and thus survival rates differ among centers. The 1-month and 1-year survival rates after heart transplantation in our center currently stand at 82.6% and 70% respectively.

Are All Flexible Mitral Annuloplastic Rings the Same? An in Vivo Study
Authors: Rasmussen J., Tjørnild M.J., Røpcke D.M., Skov S.N., Ilkjaer C., Nielsen S.L.

Department of Cardiothoracic and Vascular Surgery, Aarhus University Hospital, Denmark
Objectives: The overall purpose of this experimental study is to assess the biomechanical properties of two different flexible mitral annuloplasty rings (Medtronic Simulus and Medtronic Duran) in comparison to a completely rigid annuloplasty ring and the native valve. The evaluation and comparison of the rings will be based on 3D geometry of the mitral annulus, leaflet