ence of prenatal diagnosis and elective delivery at a tertiary care center on the surgical outcome of these infants is not known. To address this question, we reviewed all patients diagnosed with HLHS prenatally and postnatally at our institution from July 1992 to May 1997. There were 61 patients diagnosed with HLHS, 25 prenatally and 36 postnatally. Of the 25 patients diagnosed prenatally, 10 (40%) underwent palliative surgery, 6 (24%) declined surgery and 9 (36%) pregnancies were terminated. Of the 36 patients diagnosed postnatally, 23 (64%) underwent palliative surgery and 13 (36%) did not. Nine out of 10 (90%) of the prenatally diagnosed infants survived first stage palliation and all (9/9; 100%) survived the second stage. In contrast, 12 of the 23 (52%) postnatally diagnosed infants survived the first stage palliation and 11 of those 12 (92%) survived the second stage. These findings suggest that prenatal diagnosis and elective delivery in a tertiary care center may contribute to improved surgical outcome through second stage palliation in patients with BLHS (90% survival vs. 48%; $p<0.05$). Almost all of this improvement was at the first stage of palliation and may reflect the benefits of avoiding the hypoperfusion and acidosis commonly associated with postnatal presentation of HLHS.

Atrial Septal Defect Symposium

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Clinical experience with the Angel Wings™ Das™ Device for closure of atrial communications

Salmon AP, Das GS, O'Laughlin M, Mendelsohn AM, Koike K, Sebening W, Harrison JK, Hijazi ZM, Keeton BR, Brown EM, Hamm C, Weil J, Ballerini L, Shrivastava S, Redington A, Snider J

The first 114 patients (pts) planned for closure of atrial defects with the Angel Wings (AW) and complications in the total experience of 300 cases are presented. 93 patients had ASDS, 20 PFOs and 2 baffle fenestrations. TOE size of ASDs was 11.7 ± 4.8 mm, balloon occlusion diameter (BOD) 15.9 ± 4.5mm, AW size 24 ± 5.5mm and AW: BOD ratio 1.6. 95 closures were successful in 94 pts, 10 were rejected because defect too large and 10 (9.5%) had surgery for sub-optimal deployment, Follow-up is 5.2 ± 2m(ld to 14m). Complications were AF 1, clot on RA disk 2 (not taking Aspirin), death 1 (unrelated to AW), partial disk prolapse 1. There were no strokes or embolisations. Late TOE showed no/trivial shunting in 93% of pts (N = 42). After approximately 300 closures there is no AW-related mortality, 5% sub-optimal deployment, 3pts anticoagulated for clot on AW, 2 wire fractures on CXR and 2 transient effusions. Important subsequent complications were *Procedural:* MV damage needing AW removal and valve repair 1, tamponade (aortic wall perforation 1). *Late:* Tamponade 1 (aortic perforation at 3m), removal of AW at 3 m 1 (suboptimal positioning). In summary, we report a 94.7% early event-free survival in the first 94 patients with successful deployment. With recent modification of device design and selection criteria early complications are expected to be further reduced.

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The Amplazter™ septal occluder. Results of the first 101 patients in UK: A multicentre review

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Aim: To review the results of the initial 101 cases of Atrial Septal Defect (ASD) closed using the new Amplatzer™ Septal Occluder (ASO) in the UK registry with reference to its safety, efficacy and to document problems and complications.
Method: Data from all consecutive patients whose ASD were closed with the ASO in a collaborative study were reviewed with reference to age and weight distribution, size of stretched diameter of ASD and device used, complications, immediate and short term outcome. Basic descriptive statistics reported as mean and standard deviations.
Results: 102 devices were implanted in 101 patients. Age 1.74 to 64.3 (mean 12.96) years, weight 9.2 to 100 (mean 32.2) kg. Procedure time 30 to 180 (mean 92.2) minutes, screening time 6 to 49 (mean 16.07) minutes. *Complications:* Failure to implant-5, embolisation-1, transient arrhythmia-2, deep vein thrombosis-1, presumed transient ischaemic attack-1, right coronary spasm-1, bleeding-1. 1 patient required emergency surgery (closure of ASD and retrieval of embolised device).
Closure rate: Maximum 1 year follow-up show total occlusion or trivial residual shunt by one month and no major complications.
Conclusion: Experience with the ASO shows good effectiveness with a high closure rate and low complication rate. Accurate assessment of ASD anatomy, its stretch diameter and use of transoesophageal echocardiography guidance during procedure is of vital importance.

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Transcatheter closure of atrial septal defects (ASD) using CardioSEAL. European multicenter trial

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The aim of this European Multicenter Trial was to evaluate the efficiency and safety of the CardioSEAL device for ASD closure. Transcatheter ASD-closure was performed in 97 of 126 patients with ASD using the CardioSEAL device (80%). The age of patients ranged from 0.6-54.8 years, the body weight from 7-85 kg, Qp: Qs was 2.3 :1. The maximal ASD diameter was 15.5 ± 4.9 mm, the length of the interatrial septum 36.3 ± 4.7 mm. The mean device diameter was 30.4 ± 4.9 mm, with a device defect rate of 1.5-6.6. Embolization of the device occurred in two patients, in one patient elective surgery was performed as the defect was obviously too large for transcatheter closure. At 1 month follow up a trivial residual shunt was visible in 23% of patients, after 6 months a trivial residual shunt was observed in 11%. During a mean follow up period of 5.3 months (43.6 patient years), 'silent' fractures of one leg of the device occurred in 6 patients without symptoms or complications. No complications occurred during follow up.
In conclusion the CardioSEAL device can be used with a high efficiency and safety. Implantation is simple with a short flouroscopy time and the indication for ASD closure can be extended to defects without residual rim at the aorta or SVC, to multiperforated or aneurysmatic defects and finally to VSD and PDA closure.

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