36 fetuses were identified as high risk prenatally. Presence of 1 risk factor resulted in those palliated was 68% (43/63). 56% mortality, and the presence of 2 or more risk factors resulted in 67% mortality.

In 1998, a prospective multicenter study of children undergoing radiofrequency ablation (RFA) of either an accessory pathway or atrioventricular node reentry (AVNRT) was begun. 481 patients aged 0.5-16 yrs were enrolled by 23 US centers, and followed for 2 years. During the study period, 1632 pts undergoing RFA were reported by 31 centers to a separate registry. Data are available at 2 months post ablation with 98% follow-up (flu) for the enrolled group. Results with respect to success and recurrence are summarized in the table below.

The overall initial success rate was 95%. Complications due to electrophysiology study occurred in 4% and due to ablation in 4% of patients, with no deaths reported. Recurrence occurred in 4% of patients at 7 months. The most important predictor of recurrence was pathway site (p<.0001, Chi-square), with right freewall and septal locations being most likely to recur. In addition, the use of power rather than temperature mode was associated with recurrence (p=.0077, Chi-square), but age and weight were not. Considerations in this prospectively enrolled cohort of pediatric patients with nearly complete atrial and ventricular follow-up of 2 months total success rates for ablation in children are similar to those reported previously by both adult and pediatric single centers. There was a relatively high incidence of recurrence by 2 months, seen primarily in patients with right-sided accessory pathways. With 98% flu, recurrence rates are likely to be more reliable and less biased than those from prior retrospective studies.

Success and recurrence rates

<table>
<thead>
<tr>
<th>Substrate/pathway</th>
<th>Total patients</th>
<th>Success rate (%)</th>
<th>Recurrence rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right free wall</td>
<td>53</td>
<td>49</td>
<td>92</td>
</tr>
<tr>
<td>Right septal</td>
<td>69</td>
<td>63</td>
<td>91</td>
</tr>
<tr>
<td>Left septal</td>
<td>20</td>
<td>19</td>
<td>95</td>
</tr>
<tr>
<td>Left free wall</td>
<td>200</td>
<td>206</td>
<td>95</td>
</tr>
<tr>
<td>AVNRT</td>
<td>128</td>
<td>118</td>
<td>92</td>
</tr>
<tr>
<td>Mahaim</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Overall</td>
<td>481</td>
<td>457</td>
<td>95</td>
</tr>
</tbody>
</table>

POSTER SESSION

1119 Fetal Cardiology

Monday, March 31, 2003, Noon-2:00 p.m.
McCormick Place, Hall A
Presentation Hour: Noon-1:00 p.m.

1119-155 The Fetus With Hypoplastic Left Heart Syndrome: Risk Factors and Outcomes

Cyrus Samie, Carlen A. Gomez, Mark W. Russell, David A. Parra, Ach Lurominsky, University of Michigan, Ann Arbor, MI.

Prenatal diagnosis of hypoplastic left heart syndrome (HLHS) has increased significantly over the past decade. At our institution, approximately 50% of infants presenting with HLHS are diagnosed in utero. Fetal diagnosis serves to allow parental planning and implementation of a multidisciplinary approach to manage these high-risk patients. However, the effect of fetal diagnosis on patient outcome has been debatable. The purpose of this study is to assess outcomes and to identify the incidence of risk factors associated with survival in fetuses with HLHS.

Methods: A retrospective review was performed of the prenatal and postnatal medical records for all patients with a diagnosis of HLHS followed in our fetal cardiology program from June 1998 through December 2001. Outcomes were assessed, and an analysis of risk factors was performed. Risk factors included diastolic pulmonary venous return, right ventricular dysfunction, other associated cardiac defects, low birth weight, prematurity, and non-cardiovascular anomalies.

Results: The patient population consisted of 76 fetuses with a diagnosis of HLHS. The overall survival to hospital discharge was 57% (43/76). Of the 33 patients that died, 39% (13/33) expired prior to surgical intervention (including 4 with in utero demise and one elective termination). Thirty-three infants underwent surgical palliation (2 with a Ross-Konno operation, and 61 with a Norwood procedure). Survival to hospital discharge in those palliated was 68% (43/63).

Fifty percent of all fetuses (38/76) had at least one risk factor; however, only 16 of these 50 fetuses were identified as high risk prenatally. Presence of 1 risk factor resulted in 56% mortality, and the presence of 2 or more risk factors resulted in 87% mortality.

Patients with no risk factors undergoing surgical palliation had 80% survival. Conclusion: Fetuses with a prenatally diagnosed HLHS have a high incidence of risk factors that may potentially help to determine prognosis. Nonetheless, prenatal counseling should address the possibility for risk factors that may not be detected before birth.

1119-156 Diagnosis and Outcome of Dextrocardia in the Fetus

Rebecca Walfske, Takashi Ishihara, George G. 3ander, Kenneth Um, Wotter J. Duncan, Francine Teiseler, Duncan F. Fanfani, George E. Potts, Children's and Women's Health Centre of B.C., Vancouver, BC, Canada.

Background: The incidence of cardiac malformations and the accuracy of fetal echocardiography in the diagnosis of dextrocardia are not known.

Methods: We retrospectively reviewed 5539 fetal echocardiograms (FE) performed at our institution between 1979 and 2001 to identify all cases of fetal dextrocardia. Prenatal and postnatal diagnoses were compared and the outcomes reviewed.

Results: Dextrocardia was defined as the heart's position being in the right hemithorax. 92 cases were identified by FE. Of these, 30 were referred for FE following diagnosis of dextrocardia on general ultrasound, while 52 were referred for other reasons. 44 were classified as 'primary' and 26 as 'secondary'. Among primary cases, 39 had situs solitus (all with complex cardiac malformations); 18 had situs inversus (16 with no cardiac anomaly); and 17 had situs ambiguous/isomerism (all with complex cardiac malformations).Causes of secondary dextrocardia were diazphragmatic hernia (31% had cardiac malformations), cystic/amenomatous malformation, and pleural effusion. The FE diagnosis of major cardiac malformations was correct in 87% of cases. In 7% of incompletely or inaccurately diagnosed, the outcome would have been affected. The pregnancy was terminated in 19 cases, 9 of these had no cardiac defects; 6 cases aborted spontaneously; 11 cases were offered palliation or attempted; 17 cases underwent initial surgery. Review of the cases showed that 39 cases had evidence of rightward ventricular rotation (rightward AV discordance) with 98% follow up, and 53 cases were referred for FE following a general ultrasound. Conclusion: The incidence of dextrocardia differs from postnatal series. Complex cardiac malformations were found to frequently co-exist. The rates of termination, spontaneous abortion and postnatal death are high in this patient group. Fetal echocardiography is accurate and counselling of parents should be specific.

1119-157 Prenatal Growth of Tricuspid Valve and Right Ventricle Determines the Evolution and Postnatal Outcomes of Tricuspid Atresia

Gustavo K. Siegbahn, C. Balfour, Ch-Chung Chen, Barbara Fendr, Saadeh Jureidini, Andrew C. Fice, P. S. Rao, San Louis University School of Medicine, St. Louis, MO, University of Texas-Houston Medical School, Houston, TX.

Background: Tricuspid atresia (TA) with normally related great arteries is postulated to develop from mal-alignment between atrial and ventricular loop (Van Praagh). Based on observations using hyperinflation that TA may evolve prenataily from tricuspid stenosis (TS) with normal m-alignment and sought to identify the prenatal morphological determinants of postnatal outcomes. Methods: Ten fetuses diagnosed with TS without m-alignment of mal-alignment at 20.7 ± 2.7 1111s were prospectively studied up to infancy by serial echocardiography to develop growth curves of cardiac segments and compare them with data from 51 normal fetuses and infants. Results: TS fetuses had r-scores of -1.5 ± 0.1 echocardiography to develop growth curves of cardiac segments and compare them with data from 51 normal fetuses and infants. Results: TS fetuses had r-scores of -1.5 ± 0.1 prenatally, whereas other 8 had duct-dependent pulmonary circulation, the latter requiring palliative surgery. Between 1990-96 the incidence of congenital heart disease, primary- and secondary- dextrocardia was 0.59%, 0.82%, and 1.4%, respectively (observed using 76,75 scans over the same period). Conclusions: The incidence of each type of dextrocardia differs from postnatal series. Complex cardiac malformations were found to frequently co-exist. The rates of termination, spontaneous abortion and postnatal death are high in this patient group. Fetal echocardiography is accurate and counselling of parents should be specific.