Quality Assessment and Improvement – Imperatives for the Congenital Heart Surgeon

Improving the outcomes of congenital heart surgery has been the primary objective of our society since its inception. All of the study initiatives at the Data Center have been derived from a question or concern related to the surgical treatment of a congenital heart defect with the sincere hope that the knowledge obtained from each study would translate into improved treatment of our patients. I think we can be proud that such has been the case overall, but treatment outcomes have not been uniform across all centers (CHSS and non-CHSS). One finding noted in most of the CHSS studies has been a degree of variation in outcomes among participating CHSS centers. In a relatively recent publication from the Data Center (J Thorac Cardiovasc Surg 2010;139:569-77) Tara Karamlou and her coauthors examined this variation for transposition of the great arteries, pulmonary atresia with intact ventricular septum, interrupted aortic arch, and the Norwood procedure. In this study, variation in outcomes appeared to be influenced more by patient and management factors than by institution or surgeon experience. Interestingly, institutions ranking highly for the management of one lesion did not necessarily rank highly for the other lesions. These findings suggest that there is still much to be learned and more importantly much to be shared.

Information now available from the STS Congenital Database is beginning to reveal actual surgical results from an increasing number of congenital heart surgery centers in North America (Jacobs, JP, et al.: Variation in Outcomes for Benchmark Operations: An analysis of the STS Congenital Heart Surgery Database; Ann Thor Surg: In Press). Here too we find variation in outcomes among centers, especially with the higher risk procedures. Why is there variation? I suggest that answering that question should become a CHSS responsibility. More importantly the CHSS must work to minimize that variation by identifying those factors that promote success and those factors that negatively affect outcomes. As these factors are identified we will need to develop ways to implement management algorithms and paradigms such that the best results can be achieved for each lesion at each center.

This process is increasing in importance as outcome information is becoming more public. Industry and government have a valid concern about the rising cost of health care and they want to be sure that care is provided uniformly and variation in outcomes is minimal.

Work Weekend Update: Pulmonary Conduit

Your CHSS Data Center had a successful Work Weekend in Toronto (November 18-20, 2011).

We had a busy schedule with many topics discussed during three productive days. We spent considerable time discussing the Pulmonary Conduit Cohort data. Follow-up and total enrollment has substantially increased since previous publications by Hickey (Truncus paper - EJCTS 2008; 33:890-98) & Karamlou’s overview of the initial 241 infants (JTCVS 2006;132:829-38).

We currently follow 464 children enrolled as infants under the age of 2 years. The median length of follow-up is 5.9 years. Among 431 infants with an initial conduit, 150 have required re-operation. 18 have had a 3rd operation. In addition 493 catheter interventions have been done to prolong conduit life. We have over 4000 echo reports entered in the database.

First Conduit: Unadjusted Effect of ABO Matching on Unadjusted Freedom from Surgical Intervention

PAIVS Early Mortality & Palliation Strategies

We discussed the plan for PAIVS data analysis regarding early mortality and palliation strategies. Since the Ashburn paper of 2004 (JTCVS2004;127:1000-08), there is little change in the various end-states achieved or of the late survival. Median follow-up is now 12.9 years compared to 5.8 years in 2004 paper.

The group felt there were 2 areas to explore:

1. Further investigation the high mortality prior to definitive repair. This 40% mortality prior to ‘repair’ accounts for 70% of the total deaths among the PA/IVS patients.
2. Identify risk factors that affect outcomes after definitive repair. These have not previously been examined in detail.
President’s Message (Continued from Pg. 1)

Transparency is now desired and expected and reimbursement for services may likely become connected to outcomes (Pay for Performance). Thus, as we continue to work to improve outcomes in congenital heart surgery we must also work to minimize variation among centers. I hope that all CHSS members and their institutions will recognize the importance of assessing their own outcomes and be willing to participate in quality improvement initiatives. The CHSS Committee on Quality Improvement and Outcomes has been developed to help with this process in close cooperation and collaboration with the CHSS Research committee and the CHSS Datacenter. I trust you will be willing and interested in participating in this endeavor.

Technical Performance Score Pilot Project

We have received enthusiastic response to Emile Bacha’s presentation on Technical Performance Monitoring at this year’s Annual Meeting in Chicago. We followed up on the idea with a discussion session during the Fall work weekend.

The participants were very enthusiastic about initiating a CHSS-wide performance evaluation as a service for the members. We plan to collect and aggregate technical performance evaluations from multiple centers (JTCVS 2008;136:993-68 & Ann Thor Surg 2007;83:179-84). The CHSS Data Center will develop reports which will be provided to the contributing members. The reports will allow members to evaluate their technical performance in the context of the entire CHSS – a self assessment tool which has never before been available to congenital heart surgeons. The reports will be personalized so that your evaluation is confidential. In the pilot project, formatted reports will evaluate technical performance in five benchmark operations (ToF, VSD, AVSD, Norwood, ASO).

Once the pilot system is up and running, we hope to provide you with a valuable product to help with your Quality Assurance goals. As the project evolves, we will invite you to participate in the design and roll out for this exciting initiative.

A note of gratitude

As the year of 2011 nears the end, we would like to express our gratitude to all the donors who have made our research endeavors possible. We would especially like to express our sincere thanks to:

- Congenital Heart Surgeons’ Society Surgeons & Institutions
- The Hospital for Sick Children
- The Children’s Heart Foundation
- Cryolife®, Inc.
- Children’s Heart Clinic (Dr David Overman)
- Primary Children’s Hospital (Dr John Hawkins)
- The Children’s Hospital of Philadelphia (Dr Julie Brothers)
- Saving tiny Hearts Society

Congenital Heart Surgeons’ Society is a registered 501(c)(3) organization in the United States. In Canada, all the donations can be directed to SickKids Foundation, another charitable organization, with a note to direct the funds to the CHSS Data Center. We will issue tax receipts to all the donors. You can also make a donation online by visiting the secure websites below.

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