

## MP3-1

### **Chylothorax following paediatric cardiac surgery: a case control study of potential risk factors and the impact of a standardised management protocol**

*Day T. G. (1), Zannino D. (2), Golshevsky D. (1), d'Udekem Y. (3), Brizard C.(3), Cheung M.H. (1,2,4)  
Department of Cardiology, Royal Children's Hospital, Parkville, Victoria, Australia (1); Heart Research Group, Murdoch Children's Research Institute, Parkville, Victoria, Australia (2); Department of Cardiac Surgery, Royal Children's Hospital, Parkville, Victoria, Australia (3); Department of Paediatrics, University of Melbourne, Parkville, Australia (4)*

**Objective:** To investigate risk factors for the development of post-operative chylothorax following paediatric congenital heart surgery, and to investigate the impact of a management guideline on management strategies and patient outcome.

**Methods:** All patients with chylothorax following cardiac surgery at the Royal Children's Hospital, Melbourne, over a 48-month period beginning in January 2008 were identified. A control group (matched for age, date of operation, and sex) was identified. To investigate potential risk factors, univariable and multivariable logistic regression models were constructed with paired analysis. To examine the effect of a standardised management protocol, data before and after the implementation of the guideline were compared.

**Results:** 121 cases of chylothorax were identified, with 121 controls, matched for age at operation, date of operation, and sex. The chylothorax incidence was 5.23%. Increasing surgical complexity (univariable OR 0.17 of RACHS-1 group 1 vs group 6,  $p = 0.02$ ), closed heart operations (OR 0.07 open vs closed,  $p < 0.001$ ), and re-do chest incisions (OR 10.0 re-do vs virgin,  $p < 0.001$ ) were significantly associated with chylothorax. The impact of a standardised management protocol had no significant impact on either drain duration or management strategy.

**Conclusions:** We have replicated the previously reported association between surgical complexity and chylothorax risk, and have shown for the first time that re-do chest openings are also associated with a significantly increased risk. The implementation of a standardised management protocol in our institution did not result in a significant change in either chylothorax drainage duration, or management strategy.