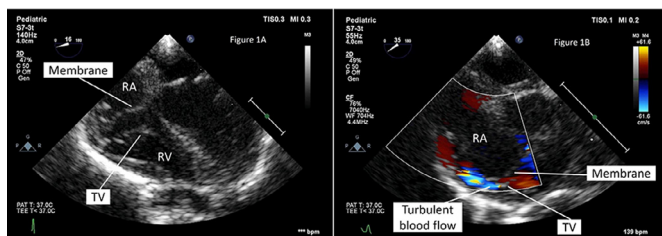




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Introduction: Cor triatrium dextrum is an extremely rare cardiac condition with an incidence of < 0.1% of all congenital heart defects (CHDs). It is caused by persistence of the right valve of the sinus venosus which separates right atrium (RA) into an inlet portion receiving systemic venous blood from the inferior and superior venae cavae, and an outlet portion containing the right atrial appendage and the orifice of the tricuspid valve (TV).¹



Methods: CASE REPORT: Informed parental consent was obtained to present this case. A 20-day-old term infant weighing 2.8 kg was admitted for progressive cyanosis and difficulties to thrive. At physical examination the newborn had a peripheral oxygen saturation of 75%. Preoperative chest X-ray showed a clog-shaped heart. Preoperative NT pro-BNP was 2311 ng/L. Repeated transthoracic echocardiography confirmed the diagnosis of cor triatrium dextrum and a R-to-L shunt through a patent foramen ovale. Distal pulmonary arteries were small for age. Surgery was scheduled. At the induction of anesthesia specific attention was paid to maintain normovolemia and a blood pressure and heart rate as compared to baseline values. Induction of anesthesia was performed with 2 mg Ketamine, 0.2 mg midazolam and 2 µg sufentanil. Tracheal intubation was facilitated with cisatracurium. Anesthesia was maintained with 1% Sevoflurane and a continuous infusion of sufentanil. Intraoperative transesophageal echocardiography (TEE) confirmed the diagnosis. The TEE 4 chamber view showed a membrane within the RA (Figure 1A) with a spinnaker movement in diastole when it was bulging into the TV (Figure 2). Laterally, there was an opening within the membrane permitting turbulent blood flow from the RA through the TV (Figure 1B). Resection of the membrane was uneventful and the foramen ovale was closed. Weaning from cardiopulmonary bypass (CPB) was facilitated with a continuous infusion of milrinone.

Results: Figures 1A and 1B: Intraoperative TEE view of the membrane.

Discussion: Cor triatrium dextrum being an extremely rare CHD, anesthesiologists may not be familiar with its clinical presentations. Depending on the degree of the RA obstruction, poor right ventricle (RV) filling and compromised pulmonary blood flow may occur. Neonatal cyanosis may appear due to streaming of the blood from the RA across the atrial septum to the left atrium. Intraoperative actions need to be taken in order to increase RV filling. In this case the opening from the RA to the RV resulted in turbulent flow but intraoperative hemodynamic

optimization increased this forward flow and prevented any oxygen saturation concentrations < 75% before starting CPB.

LEARNING POINTS: 1. Anesthesiologists need to be aware of intraoperative hemodynamic instability and cyanosis due to the obstructive membrane within RA in case of cor triatrium dextrum.

2. Pre CPB TEE should carefully evaluate the TV that may mimic an Ebstein anomaly as the membrane may bulge into the TV.

References: 1. Hansing C, et al. Cor triatrium dexter: persistent right sinus venosus valve. *Am J Cardiol* 1972;30:559-64

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PATIENT PERIOPERATIVE EXPERIENCE AT ST. BARTHOLOMEW'S DURING THE COVID-19 PANDEMIC

Sarra Wang, Adenike Odeleye, Sue Body, Amieth Yogarajah

St. Bartholomew's Hospital, London, UNITED KINGDOM

Introduction: The pressure of the global COVID-19 pandemic led to unprecedented changes in the delivery of health-care services in a short period of time. Due to the nature of cardiothoracic surgery, there was an urgent need to adapt and continue delivery of services whilst maintaining patient and staff safety (1) St. Bartholomew's Hospital is a Cardiothoracic tertiary centre. The trust underwent mass redistribution of intensive care services and creation of a new hospital (The Nightingale) to manage the influx of COVID-19 patients. Therefore, the delivery of cardiothoracic perioperative services changed significantly, requiring online or telephone appointments for pre-op assessment clinic; strict no visitors policy and the need for patient self-isolation prior to hospital admission. Delivering perioperative care in this new environment was challenging and we wanted to investigate how these changes impacted the perioperative experiences of cardiothoracic patients during this time with the aim of improving any shortcomings identified.

Methods: Between 7-8th September 2020, all patients who were at least 48h post-procedure were given a self-administered paper questionnaire after verbal consent was obtained. This consisted of a total of eight structured and unstructured questions. These were analysed using simple frequency analysis and manual analysis respectively. Common themes were identified.

Results: 51 patients completed the questionnaire - 39 cardiac and 12 thoracic patients. The main themes were pain and surviving the operation with concerns regarding family. 88% of patients positively recalled speaking to an anaesthetist face to

face, with over half of these interactions being a day before their surgery. 92% felt meeting the anaesthetist was useful in addressing their worries and helped with anxiety. Information delivery regarding post-operative pain was an overwhelming theme and potential area for improvement. 88% of patients would recommend St. Bartholomew's hospital to friends and family. 64.8% who completed the question "Is there anything else you want to tell your anaesthetists or critical care doctors?" wanted to express their gratitude to all healthcare professionals involved in their care. Interestingly, a number of patients reported that they would like information about lifestyle changes and identified a potential window for signposting for more support.

Discussion: Unfortunately, there is little national or international data for direct comparison of our findings. Post-operative pain expectations can be further explored to establish whether more pre-operative information surrounding analgesia is required. Anaesthetists should be aware that the perioperative period for major surgery is a teachable moment for potential lifestyle changes and could play an important part in utilising this opportunity. We hope that this simple questionnaire can provide healthcare staff a better insight into perioperative patient experience and the importance of preoperative provision of information. Despite significant changes during the pandemic, it is reassuring to know that the overall patient experience was positive.

References: 1. Harky A, Harrington D, Nawaytou O, Othman A, Fowler C, Owens G, et al. COVID-19 and cardiac surgery: A perspective from United Kingdom. *J Card Surg* 2020;36 (3)

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EARLY POSTOPERATIVE SERUM OSMOLARITY IMBALANCE MAY PREDICT WORSE SHORT-TERM MORTALITY AFTER HEART TRANSPLANTATION IN ADULTS

Andras Szabo¹, Dominika Szabo², Krisztina Toth³, Balazs Szecsi³, Anges Sandor¹, Csaba Eke³, Rita Szentgroti³, Boglar Parkanyi³, Andras Denes³, Andrea Szekely¹

¹Semmelweis University Dept. of Anesthesiology and Intensive Therapy, Budapest, HUNGARY

²Semmelweis University Heart and Vascular Center, Budapest, HUNGARY

³Semmelweis University, Budapest, HUNGARY

Introduction: Perioperative homeostatic balance is one of the most important factors to determine the early morbidity and mortality after adults' heart transplantation. Medical management of end-stage heart failure, intra- and postoperative fluid therapy, preexisting renal and endocrine failure or dysfunction could have a heavy effect on these parameters. The ion balance

and osmotic regulation were in our focus in the current study to investigate the relationship to worse outcomes after cardiac transplantation.

Methods: A retrospective analysis was performed on heart transplant patients between February 2018 and April 2021. Perioperative laboratory tests, anthropometric data and past medical history were collected. Calculated serum osmolality was collected from arterial blood gas samples. Ratios to the baseline osmolality were calculated on postoperative days (POD) 1, 2, 3, 7, and 14. The significant difference in osmolality ratios was determined as a higher or equal deviation than 5 percent. The primary outcome was 90 days mortality. For descriptive statistics the Mann-Whitney U test and chi-square test were used. To investigate the relationship between collected parameters and primary outcome Cox regression method was used.

Results: During the examined period data from 142 patients were analyzed, 69.7% of them were male. The median of patients' age was 54 years (IQR: 45-60 years). The median follow-up time was 577.5 days (IQR: 242.25-795.0 days). During follow-up time 26 patients died (18.3%). Significant osmolality deviation was observed 27.5%, 26.5%, 22.6%, 34.1% and 33.3% of patients on the 1, 2, 3, 7, and 14 postoperative days, respectively. With descriptive statistics methods higher 90-days-mortality was observed in the deviation on days 2 cohort (6.0% vs. 19.4%, chi-square p=0.019) and deviation on day 3 cohort (6.8% vs. 20.0%, p=0.032).

Using Cox regression methods larger deviation than 5% of osmolality on postoperative day 2 and day 3 were associated with higher risk for overall mortality (dOsm \geq 5% on POD2 HR: 3.443 95%CI: 1.157-10.248, p=0.018, dOsm \geq 5% on POD3 HR: 3.110, 95%CI: 1.045-9.256, p=0.032).

Discussion: Deviation of osmolality larger than 5% to the baseline at the early postoperative period could be a risk factor/indicator of short-time mortality after heart transplantation in adults.

References: 1. Grim CCA, Termorshuizen F, Bosman RJ, Cremer OL, Meinders AJ, Nijsten MWN, Pickkers P, de Man AME, Schultz MJ, van Vliet P, Weigel JD, Helmerhorst HJF, de Keizer NF, de Jonge E. Association Between an Increase in Serum Sodium and In-Hospital Mortality in Critically Ill Patients. *Crit Care Med*. 2021 Jun 24. doi: 10.1097/CCM.0000000000005173. Epub ahead of print. PMID: 34166287.

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ANAESTHESIA FOR THORACOSCOPIC THYMECTOMY IN MYASTHENIA GRAVIS: A NON-MUSCLE-RELAXANT TECHNIQUE

Juneenath Karattuparambil, Ranjit Bains, Arun Govindaswamy