

4th International Conference on **Clinical & Experimental Cardiology** April 14-16, 2014 Hilton San Antonio Airport, TX, USA

Hemodynamic effects of laparoscopic surgery in infants with cardiac anomalies

Christine Burgmeier University Medical Center Ulm, Germany

Aim: Laparoscopic surgery is progressively performed in pediatric surgery, even in small infants and premature babies. From the technical point of view size and weight of the child are no longer limiting factors. Additionally, more complex and long-lasting laparoscopic procedures can be performed and enable nearly scar less surgery as well as quicker recovery. Nevertheless, there is a lack of knowledge about the influence of insufflation and pneumoperitoneum on the cardiovascular system, especially in infants with cardiac anomalies. The aim of this study was to evaluate the hemodynamic effects of laparoscopic surgery in term and preterm infants with cardiac anomalies.

Methods: In this retrospective, single institution study all term and preterm infants with cardiac anomalies undergoing laparoscopic surgery within the first six months of life were included. Between January 2004 until January 2013, 131 term and preterm infants were identified. We evaluated the type of cardiac anomaly, performed operative procedure, operative time, intra-abdominal pressure and hemodynamic changes in the postoperative course.

Results: Altogether, 80 preterm and 51 term infants underwent different complex and even long-lasting laparoscopic procedures. The most common procedure was laparoscopic hernia repair. Median operative time was 67 minutes with a median intraabdominal pressure of 13 mm Hg. Cardiac anomalies ranged from persistent foramen ovale (PFO), atrium septal defect (ASD) to ventricular septal defect (VSD) and tetralogy of Fallot. 33.6% of patients had combinations of cardiac anomalies. 8.4% of the patients had hemodynamically relevant shunting preoperatively. In the postoperative course hemodynamic impairment was noted in three infants (2.3%). Only one of them presented cardiorespiratory instability in the postoperative course.

Conclusion: In this retrospective study, different laparoscopic procedures could be performed in numerous infants with cardiac anomalies. Preoperative evaluation by a firm pediatric cardiologist is crucial and decides about the operative approach. In the future, prospective studies are necessary to further clarify indications and contraindications of laparoscopic surgery in this distinct group of patients.

Biography

Christine Burgmeier is an Assistant Physician in the Department of General and Pediatric Surgery at Ulm, Germany. Her special interest and research topic is minimally-invasive surgery in term and preterm infants. Recently, she evaluated the hemodynamic effects of laparoscopy and thoracoscopy in babies with congenital heart defects. She completed medical school at the Ludwigs-Maximilians-University Munich, Germany in 2005. After that she started her surgical training in the Department of Cardiothoracic Surgery in Stuttgart. Since 2010, she is doing her special training for pediatric surgery.

burgmeierch@yahoo.de