

<https://doi.org/10.48047/AFJBS.6.7.2024.3045-3047>



Anaesthetic Management Of Laproscopic Ovarian Cystectomy In 3month Old Baby

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ArticleHistory

Volume:6,Issue7,2024

Received:30May2024

Accepted:26June2024

doi:10.48047/AFJBS.6.7.

2024.3045-3047

ABSTRACT:

Laparoscopic ovarian cystectomy in infants presents unique anaesthetic challenges due to the physiological and anatomical considerations specific to this age group. This case report discusses the anaesthetic management of a 3-month-old infant undergoing laparoscopic ovarian cystectomy, highlighting preoperative preparation, intraoperative care, and postoperative management to ensure optimal outcomes.

Keywords: laparoscopy , anaesthesia for 3month old baby , intraoperative anaesthetic management, paediatric Anaesthesia

INTRODUCTION:

Ovarian cysts are the most frequently encountered abdominal tumors in female fetuses and newborns(1). Although neonatal ovarian cysts (NOC) are increasingly diagnosed with routine antenatal ultrasound screening, their management is still controversial(2). Here we report a case of right haemorrhagic cyst in 3 month old baby posted for laproscopic ovarian cystectomy.

CASE PRESENTATION:

A 3month old baby with antenatally detected right ovarian cyst presented with persistent haemorrhagic ovarian cyst in post natal scans and was admitted for further evaluation and excision. Birth history

revealed that she was a term baby delivered vaginally. There was no history of NICU admission after delivery. On general examination, the baby was active, alert, afebrile with a heart rate of 142/min, respiratory rate of 22/min and blood pressure of 100/70mmhg with a saturation level of 98% in room air. On systemic examination, there was a mass palpable in right iliac fossa which was non-tender and non-pulsatile. CECT abdomen was done which revealed a ovarian cyst with haemorrhage and fluid level of size 2.5*3.5*3cms. Preoperatively prophylactic antibiotics were started and the child was planned for laproscopic ovarian cystectomy.



In the operating room, electrocardiography, non-invasive blood pressure monitoring, saturation monitoring and ETCO₂ monitoring were started and peripheral line was secured with 22Gauge intravenous cannula. Intravenous pre-medication glycopyrolate 0.04mg and Fentanyl 10mcg was given. After pre-oxygenation with 100% oxygen with Jackson Rees circuit, induction was done with injection Thiopentone 15mg iv and paralysed with injection Atracurium 2mg iv. Endotracheal intubation was done with 3 size uncuffed ET tube and the position was confirmed with five-point auscultation. Anesthesia was maintained with 1-1.5% sevoflurane and O₂: air 50:50%. Controlled ventilation was done with tidal volume of 50ml, respiratory rate of 14 and saturation was maintained above 95%. Intraoperatively, patient was haemodynamically stable. Right ovarian haemorrhagic cyst was removed laproscopically and the procedure was uneventful. At the end of surgery, neuromuscular blockade was reversed with neostigmine 0.25mg and glycopyrolate 0.04mg iv. The baby had an uneventful recovery.

DISCUSSION:

Ovarian cysts are the most common ovarian lesions in newborns; they are usually simple and benign but can be complicated and symptomatic(3). The physiological effects of laparoscopy in children are similar to adults, but the effects of the pneumoperitoneum and the extremes of patient position (Trendelenburg or reverse Trendelenburg) are more profound in neonates and infants. These effects depend on the type of gas used for insufflation, the insufflation rate, intra-abdominal pressure (IAP) after insufflation, volume of gas insufflated, duration of pneumoperitoneum, and the use of nitrous oxide for the maintenance of anaesthesia(4). Children have a higher vagal tone than adults and are more susceptible to this vagal

reflex. Thus, gas should be insufflated at a low rate. Medications to treat bradycardia, such as glycopyrrolate or atropine, should be readily available(5,6). As pneumoperitoneum causes increased IAP, it pushes the diaphragm upwards decreasing the thoracic compliance. Children under the age of 10 years may have a closing volume that is closer to their functional residual capacity, and thus may be more likely to develop small-airway closure during pneumoperitoneum(7). In conclusion, laproscopic cyst excision in newborns may lead to various complications related to cardiovascular, respiratory and other systems, hence it should be performed safely with proper intraoperative management and post operative care.

CONCLUSION:

Laparoscopic ovarian cystectomy in a 3-month-old infant presents unique anesthetic challenges. Careful preoperative assessment, vigilant intraoperative monitoring, and proactive management of potential complications are critical for a successful outcome. This case highlights the importance of a multidisciplinary approach to pediatric anesthesia for laparoscopic surgery.

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