

Anorectal Malformation with Congenital Heart Disease in Neonate

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ABSTRACT

Anorectal malformation is happening in 1 every 4000 newborns. The case is usual but not every case is also developed with congenital heart disease. So, in this case report, we want to share the case in our regional hospital regarding a patient with anorectal malformation and congenital heart disease who underwent sigmoidectomy under general anesthesia.

Keywords: anorectal malformation; congenital heart disease; pediatric anesthesia.

INTRODUCTION

Anorectal malformation is a congenital abnormality that can be diagnosed from 28 weeks gestational age. Usually, it happens in 1 every 4000 newborns, but a few more neonates also develop congenital heart disease. In this case, the patient also needed surgery for sigmoidectomy under general anesthesia.

CASE REPORT

A newborn baby, 2.3 kgs, born from vaginal delivery with multiple congenital abnormalities such as anorectal malformation, cleft lip and palate, cyanotic heart disease, and Down syndrome. The patient was given Lisinopril, Spironolactone, and Sildenafil.

From the physical examination, the airway was clear, with no chest retraction with respiratory rate of 40 times per minute, 77% oxygen saturation, heart rate of 132 beats per minute. The patient was diagnosed with an anorectal malformation, atresia ani with vestibular fistule and marasmus.

From laboratory findings, there are several abnormalities. The patient was leukocytosis, higher liver function, and hemostatic function. There is no abnormality in the chest x-ray. From echocardiography, tricuspid valve pressure was 35 mmHg, with atrial septal defect secundum around 0.8 cm bidirectional and ventricle septal defect 0.3 cm.



FIGURE 1: Chest X-ray.

The patient then concluded with anorectal malformation with a vestibular fistula. The patient was also diagnosed with cleft lip and palate, ASD secundum, VSD, down syndrome, and marasmus. The patient was planned to have sigmoidectomy surgery so the patient was prepared for general anesthesia with PS ASA 3.

The patient was premedicated with fentanyl 5 mcg after the room temperature was set to 24 Celsius. The patient was induced with ketamine 10 mg and atracurium 1 mg. Intravenous maintenance was none, only inhalation of sevoflurane 2% vol. Ventilator was set to FiO2 40%.



FIGURE 2: Intraoperative Hemodynamics.

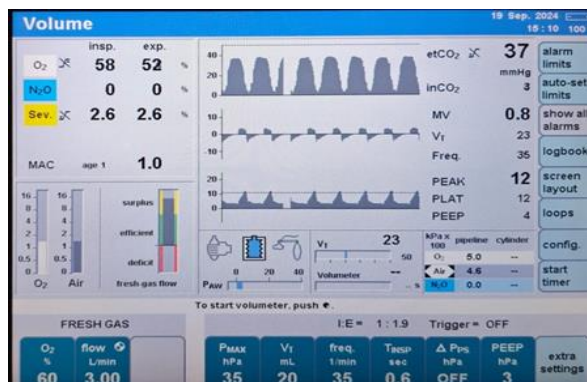


FIGURE 3: Ventilator setting.

ETCO ₂ = 37 VT 23	
MV = 0.8 FIO ₂ = 40%	

i-STAT CG4+	
Pt: 222	
Pt Name: _____	

37.0°C	
PH	7.143
PCO ₂	37.4 mmHg
PO ₂	66 mmHg
BE _{ecf}	-16 mmol/L
HCO ₃	12.8 mmol/L
TCO ₂	14 mmol/L
sO ₂	86 %
Lac	1.55 mmol/L

FIGURE 4: Intraoperative Arterial Blood Gas.



FIGURE 5: Postoperative Condition.

The arterial line and central venous catheter were advanced for close and real-time monitoring and also for better fluid and blood access. Surgery was going on for 3 hours and 30 minutes along with general anesthesia.

Total blood loss was 5 ml with urine output 15 ml. Fluid was given 90 ml from preoperation until post-operation.

After surgery, the patient was transferred to the pediatric intensive care unit. Physical examination was normal with heart rate 109 bpm, SpO₂ 78%, and blood pressure 91/51 with dobutamine. There is no fever 48 hours after surgery and also urine output is within normal limits.

CONCLUSIONS

So, from this case, we can conclude that every anorectal malformation should be treated under general anesthesia differently.

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REFERENCES

- [1] Smith CA, Avansino J. Anorectal Malformations. [Updated 2023 Aug 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK54227>
- [2] Tariq A, Bora V. Perioperative Management of Patients with Congenital Heart Disease. [Updated 2023 Sep 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK585103>