



BMH Med. J. 2017;4(4):131-133 **Case Report**

A Case Of Leaking Chyle - One Lung Ventilation In Prone Position

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Introduction

The incidence of lung isolation is on the rise as thoracoscopic procedures are being performed more frequently. Moreover, certain procedures require prone or lateral position also for accessibility. Our main aim during such surgeries is to prevent hypoxia and to maintain hemodynamic stability.

Case Report

A middle aged male with rheumatic heart disease, having moderate to severe aortic regurgitation, moderate mitral stenosis and mitral regurgitation, underwent uneventful double valve repair. On post op day 2, chylous leak was noted through the chest drains, which was not subsiding. So he was referred to our institution for thoracoscopic ligation of thoracic duct.

He had no other co morbidities. He was on oral anticoagulation, which was stopped and Inj Heparin was started in the preoperative period. Preop investigations showed low albumin with Albumin/Globulin ratio reversal. All other blood investigations were within normal limits.

ECG showed a normal sinus rhythm with no signs of ischemia or chamber enlargement. Echocardiogram showed an ejection fraction of 59%, with normally functioning valves and no regurgitation.

Preoperatively, half an hour before the surgery, infective endocarditis prophylaxis was given with Inj Ampicillin 2gm IV. Premedication with Inj Midazolam 1mg, Inj Ranitidine 50mg and Inj Glycopyrrolate 0.2mg IV.

The patient was shifted into the operating room. Left radial artery was cannulated for invasive BP monitoring and ABG analysis. Right subclavian central line was inserted with 7F triple lumen catheter. Preinduction monitors were ECG, pulse oximetry, non invasive blood pressure monitoring.

Post induction monitors were end tidal CO₂, temperature, neuromuscular monitor and urine output.

He was induced with Inj Fentanyl 100mcg and Inj Etomidate 20mg. Neuromuscular paralysis with Inj Atracurium 50mg. He was intubated with 41F left double lumen tube and secured after confirming the position. Ryles tube was also inserted and position checked.

After induction, patient was put in the prone position, taking care of all pressure points and making sure ventilation was adequate. Anaesthesia was maintained with inhalational oxygen, air, sevoflurane and IV infusion of Fentanyl at fifty microgram per hour and dexmedetomidine at 0.5 microgram per hour.

Through the Ryles tube, fat rich mixture (100ml olive oil and 100ml ice cream powder in water) was given. Before commencement of thoracoscopy, one lung ventilation was established.

Intraoperative period was uneventful with, arterial blood gas analysis after intubation and after surgery showing PaO₂, PCO₂ and pH within normal range. Ventilatory strategy was pressure control, volume guarded dual control ventilation. A tidal volume of 400 to 500ml was attained, with pressure of 27 to 28 mmHg and PEEP of 5cm water. SpO₂ 98 to 100% and end tidal CO₂ 32 to 34 with respiratory rate 12 to 14 per minute. The thoracic duct was identified, double clipped and ligated by the surgeon.

After the surgery, the patient was put in supine position. Thorough Ryles tube suctioning done. Antiemetic measures with Inj Ondansetron and Inj Metoclopramide. Double lumen tube was changed to single lumen tube and ventilated. Gradually neuromuscular reversal was given and extubated when fully awake. The post op period was uneventful.

Discussion

The major concerns in this case were a patient post double valve repair, who needed one lung ventilation in prone position, and was full stomach before extubation.

As he was post double valve repair, infective endocarditis prophylaxis was given as per recommendation, anticoagulants were continued and valve function was checked. One lung ventilation was needed for surgical access, and measures to prevent hypoxia like a Positive End Expiratory pressure of 5 cm H₂O, maintaining ventilation of both lungs as far as possible was done [1]. Because we were using Dexmedetomidine and Fentanyl infusions during surgery, we were able to ventilate with higher inspired oxygen concentration. This also helps in our aim to prevent hypoxia during one lung ventilation. Prone position was necessary and it actually helped in improving ventilation when compared to lateral position with one lung ventilation [2]. As a protocol we use left sided double lumen tube almost always when lung separation is required. This is supported by many recent surveys, wherein anaesthesiologists showed preference to left sided tubes than right [3]. The margin of safety with left sided tube is far higher than the right sided one [4]. All pressure points were padded. The disadvantage was decreased accessibility to airway in case of desaturation. Ryles tube feeding with fat rich mixture increased risk of regurgitation and aspiration at the time of extubation. So antiemetics were given as a prophylaxis well before planned extubation. A thorough Ryles tube suctioning was done before reversal and extubated only when he was fully awake.

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