



An Unexplained Postoperative Lung Collapse: A Case Report

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Introduction

Postoperative complications are common and can occur in any individual ranging from postoperative nausea vomiting, psychosis, haemorrhage, shock, surgical site infection, respiratory complications and death [1]. Postoperative pulmonary complications are common ranges from 5 to 80 percent [2]. These complications include atelectasis, bronchospasm, pneumonia, exacerbation of chronic lung disease, pulmonary oedema, thromboembolism. In our case report we presenting a case of uterine fibroid who had total abdominal hysterectomy with bilateral salpingo-Oophorectomy under spinal anaesthesia and postoperatively developed lung collapse.

Case Report

A forty-five years old female gravida 4, para 4, 2 live child with history of recurrent vaginal bleeding since last 4-5 months. On general physical examination pallor was present, abdomen was soft, per vaginal bleeding present and rest examination was normal. Patient had history of psychosis from adolescent and was taking treatment irregularly. Patient didn't have any other medical history. Ultrasonography abdomen and pelvis shows bulky uterus with multiple fibroids on anterior and posterior wall largest 74×72 mm. Routine investigations sent including complete hemogram and Haemoglobin was 2.3gm/dl. Blood transfusion was done and Tab norethisterone 5mg started. Patient came back after 10 days and there was no vaginal bleeding.



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Patient planned for elective surgery for fibroid and admitted in gynae department. Total abdominal hysterectomy and bilateral salpingo- Oophorectomy under spinal anaesthesia done.

After surgery patient shifted to postoperative ward and patient was stable. Next day of surgery patient develop sudden onset of breathlessness, cough, chest pain. On examination saturation dropped (Spo2 65% at room air), tachypnoea, tachycardia was also present. On auscultation air entry was reduced on right side in axillary and infrascapular areas without any added sound, although blood pressure was normal. Chest x-ray done, it was suggestive of right middle and lower lobe collapse, mediastinum shifted towards right side (Figure 2).

Before surgery chest x-ray was normal (Figure 1). Patient given humidified oxygen, nebulisation with bronchodilator, mucolytics and antibiotics were started. Postural drainage was done anticipating some secretion/mucus plug in airways.

Next day repeat chest x-ray done which showed expansion of lung and disappearance of collapse (Figure 3). Patient also improved clinically and stable, not require oxygenation (Spo2 98% at room air).

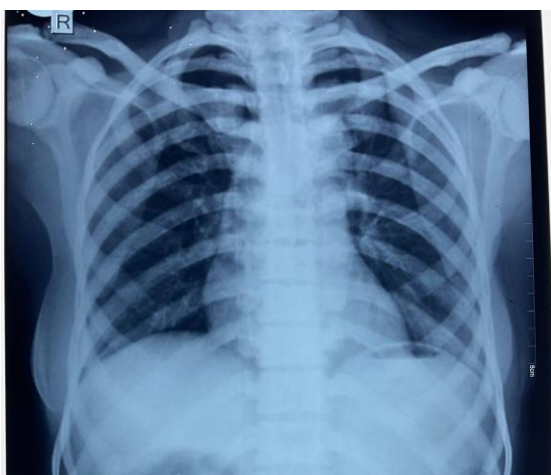


Figure 1: Preoperative chest x-ray.

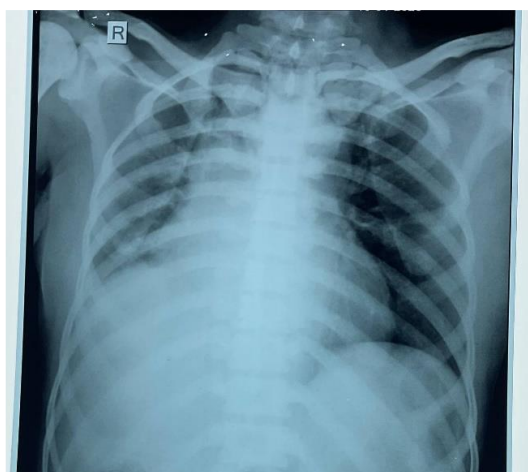


Figure 2: Postoperative chest x-ray.

On next day computed tomography scan (CT scan, Figure 4) done which showed no parenchymal and airway abnormality, only cardiomegaly was there and minimal pleural effusion.

Patient discharged with same treatment and advised to review in outpatient patient department.

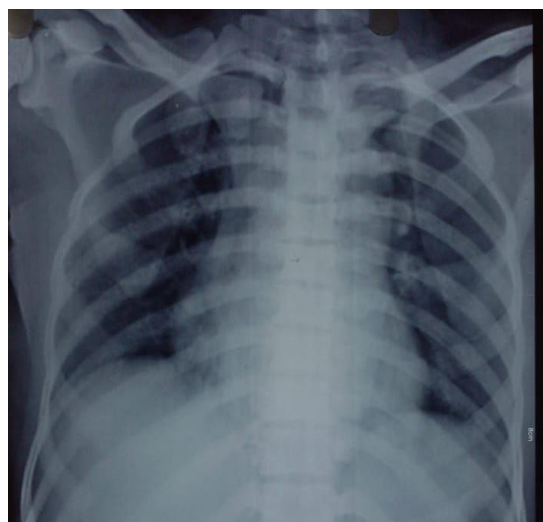


Figure 3: Third day chest x-ray.

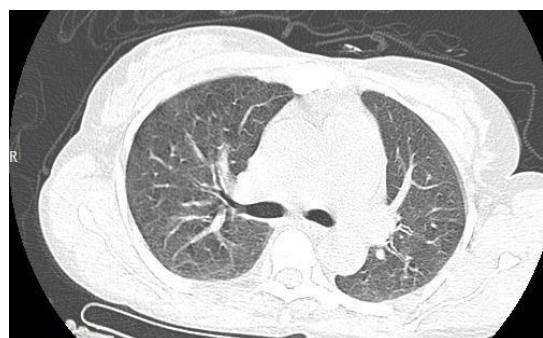


Figure 4: CT scan images of patient after resolution.

Discussion

Postoperative atelectasis can occur in patients who underwent surgery under general anaesthesia [3]. It is quite rare in spinal anaesthesia. In our case report patient underwent total abdominal hysterectomy and bilateral salpingo-Oophorectomy under spinal anaesthesia. Patient developed breathlessness next day and chest x-ray was suggestive of right middle and lower lobe collapse (Figure1). Collapse resolve next day without any specific treatment and chest CT scan didn't show any parenchymal and airway abnormality. In searching of cause, we did not find any particular reason for this collapse. Our theory about development of collapse lung and spontaneous resolution of collapse is that patient might had secretions in airways which accumulated in right intermedius bronchus which then get dried and struck in bronchus. After giving nebulisation with mucolytics and moist oxygen inhalation, these secretions might get wet then expectorated by patient. Patient developed re-expansion pleural effusion after lung expanded. It is just one theory about this unusual event particularly postoperative and

in spinal anaesthesia. Patient didn't have any risk factors which increases the risk of respiratory complications. Patient did not receive any specific treatment to resolve collapse.

In our case we think it might be obstructive collapse but again question arises how did occurred?. Most important is resolution which occur within between 24-48 hours. Generally, no diaphragmatic movement hamper, no phrenic nerve irritation or other respiratory dysfunction occur in spinal anaesthesia. Explanation regarding cardiomegaly can give with presence of severe anaemia. Only one explanation which we gave above can fit into this but again patient did not have any prior history of respiratory illness and patient also did not receive any anticholinergics which can dry the secretions. Injectable diclofenac was given for postoperative analgesia not any opioids. Other possibilities for collapse local bronchospasm, acute pulmonary oedema, less likely pulmonary thromboembolism. All these cause require specific intervention and treatment to resolve.

Conclusion

Postoperative complications which are more common in general anaesthesia, can also occur in spinal anaesthesia. Our case report just want to highlight a case in which collapse occurred which resolved its own but cause is still clearly not known and not much mention about it in literature also. Though it is rare but respiratory complications can occur postoperatively. Hence, continuous monitoring required for acquired complications.

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