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Case Report: A case of secondary spontaneous pneumothorax during pregnancy posted for emergency LSCS

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Introduction

Spontaneous pneumothorax is sudden collapse of a bleb or bulla. Although spontaneous pneumothorax has higher incidence rate in young males, occurrence in women is not uncommon.[1] However, spontaneous pneumothorax in pregnancy is rare. It is of two types: primary and secondary pneumothorax.[2] Primary spontaneous pneumothorax occurs in patients with no underlying lung disease while secondary pneumothorax occurs in patients with clinically obvious lung disease.

Case Report

A 28 yr old primigravida at term pregnancy admitted in labor room with diagnosis of cephalopelvic disproportion for past 2 days with previous history of tuberculosis 4 yrs back (treatment completed).

Patient started complaining of breathing difficulty which was sudden in onset, right sided chest pain and cough after vigorously pushing for 1 hour during labor.

On examination, she was tachypneic with Respiratory rate 30/min, Pulse rate 124/min, Blood pressure 110/50 mmhg and oxygen saturation of 88% on air. Oxygen started via facemask @ 4L/min. On further examination hyper resonance found on percussion and absent breath sounds on auscultation on the right side of the chest.

A bed side right sided chest x ray was done with abdominal protective lead shield after explaining the risk of radiation to the fetus to patient and relatives and informed written consent was taken. Chest X-ray showed large pneumothorax compressing the whole right lung (Fig.1). After taking informed written consent, under all aseptic precaution right sided chest tube was inserted and position was confirmed. After placement of chest tube, her symptoms improved drastically and she was observed for 1 hour for any deterioration. Her oxygen saturation improved on 96% on room air. She gave history of pulmonary tuberculosis 4 yrs back for which she has completed her treatment. She gave no history of fever or trauma during pregnancy. She was nonsmoker, nonalcoholic and there was no history of any drug abuse.

Her airway and physical examination were unremarkable. Her haematological and biochemical investigations were within normal limits. A thorough pre anaesthetic checkup done, anaesthetic challenge

was discussed with patient and relatives. Informed written consent taken for surgery and anaesthesia in view of obstetric indication.

In operation theatre, base line monitoring (ECG, NIBP, SPO2) started and Chest tube reassessed for functionality. Intravenous line secured with 18 G cannula in left hand and ringer lactate started.

Under all aseptic condition, spinal anaesthesia given with 2.5 ml of 0.5% hyperbaric bupivacaine using 25G quinke spinal needle with patient in sitting position. Adequate level of block achieved. During intraoperative period, patient was responding to commands and her vitals were stable. After 5 minutes of skin incision, a healthy female child weighing 3 kg was delivered with an Apgar score of 8 at 1 minute and 9 at 5 minutes. The uterus was well contracted with ongoing oxytocin drip. The remains intraoperative course was uneventful with blood loss of around 450 ml and urine output of 150 ml. After the surgery, patient was shifted to High dependency unit (HDU) for vigilant monitoring.

Patient was advised chest xray for any residual pneumothorax , reexpansion of lungs postoperatively. On post-op Day 2, chest tube was removed and patient was discharged on post-op Day 5 with advice of incentive spirometry.

Discussion

Spontaneous pneumothorax in pregnancy is extremely rare.[3] Risk factors most commonly associated are pulmonary tuberculosis, asthma, cocaine use, hyperemesis gravidarum, underlying lung infection and previous history of pneumothorax.[4] These cases are underreported as typical pneumothorax symptoms such as Dyspnea , chest pain are often attributed to paroxysmal tachycardia, neuralgia or asthma exacerbation[5]. During pregnancy, pulmonary function reserve including functional residual capacity and total lung capacity is decreased [3]whereas oxygen consumption by the maternal organs, placenta and fetus is increased. Any derangement in ventilation during peripartum period ,may thus have serious consequences for both mother and fetus.

The possible mechanism which can increase the risk of bulla rupture during pregnancy include valsalva manoeuvre during labor, increase in minute ventilation and positive pressure ventilation during general anaesthesia. [6,7]

Diagnosis of pneumothorax can be confirmed by chest x ray with abdominal shield. Shielded CT scan can be useful in planning an operative approach if surgical treatment is indicated.[8]

Treatment of acute pneumothorax in pregnancy is similar to non pregnant patients. If less than 20% hemithorax is involved, then vigilant monitoring is done and if more than 20% hemithorax is involved, chest tube insertion is prioritized.

There are high chances of recurrent, persistant or bilateral pneumothorax which needs thoracotomy or thoracoscopy. Video assisted thoracoscopic surgery (VATS) has become the preferred technique for treatment of recurrent pneumothorax in pregnancy. Preventive measures including smoking cessation, avoidance of rapid change in ambient pressure such as high altitude should be avoided by patients with history of pneumothorax

Conclusion

Pneumothorax should always be considered in pregnant patients presenting with acute chest pain , dyspnea or history of previous pneumothorax in peripartum period. Appropriate and timely management of pneumothorax in pregnancy is usually associated with good maternal and fetal outcomes.

References

1. Melton LJ, Hepper NCG, Offord KP. Incidence of spontaneous pneumothorax in Olmsted County, Minnesota: 1950–1974. *Am Rev Respir Dis* 1979;**29**:1379–1382.
2. Noppen M. Spontaneous pneumothorax: Epidemiology, pathophysiology and cause. Eur Respr Rev 2010;19:217-9
3. Wong MK, Leung WC, Wang JK, Lao TT, Ip MS, Lam WK, *et al* . Recurrent pneumothorax in pregnancy: What should we do after placing an intercostals drain. Hong Kong Med J 2006;12:375-80.
4. Nakamura H, Konishiike J, Sugamura A, Takeno Y. Epidemiology of spontaneous pneumothorax in women. Chest 1986;89:378-82.
5. Terndrup TE, Bosco SF, McLean ER. Spontaneous pneumothorax complicating pregnancy: Case report and review of literature. J Emerg Med 1989;7:245-8.
6. Harten JM, Brown AG, Davidson IT. Post partum pneumothorax: two case reports and discussion. Int J Obstet Anesth 2000;9:286–9.
7. Garg R, Sanjay, Das V, et al. Spontaneous pneumothorax: an unusual complication of pregnancy—a case report and review of literature. Ann Thorac Med 2008;3:104–5.
8. Van Winter JT, Nichols FC 3rd, Pairolero PC, Ney JA, Ogburn PL Jr. Management of spontaneous pneumothorax during pregnancy: Report and review of the literature. Mayo Clin Proc 1996;71:249-52.

Legend Figure

Fig.1