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Management of respiratory distress in pregnancy: A case report

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ABSTRACT: Maternal benefits of fetal extraction have been clearly demonstrated in the case of hemodynamic failure. However, in case of respiratory failure very little data are available. The aim of our study is to discuss the management of patients with respiratory distress during pregnancy secondary to a pleuropulmonary disease.

KEYWORDS: Respiratory distress, dyspnoea, pregnancy.

1 INTRODUCTION

We report the case of a patient of 24 years carrying a destroyed left lung, admitted at 35 weeks of gestation to the obstetrical emergencies for acute dyspnoea with severe preterm labor. Pleural drainage was performed with a marked improvement and natural delivery accepted. The patient was delivered by C- section under spinal anesthesia for cervical stagnation at 5 cm.

2 OBSERVATION

Mrs. YM, 24 year-old primi gravida woman, with no history of lung disease, presented in her fifth month of pregnancy a cough associated to a dyspnoea. Physical examination showed a left pleural effusion syndrom. A chest-X-Rays with abdominal protection revealed a left lung destroyed. A pleural puncture revealed purulent fluid, Rivalta positive, 52400 leukocytes/mm3 (95% neutrophils and 5% lymphocytes), 150 red blood cells/mm3, 80 mesothelial cells / mm3 without mycelian filaments. Direct examination and culture were negative. Pleural biopsy showed no specific inflammatory alterations of the parietal pleural membrane. The patient was admitted to the obstetrical emergencies for dyspnea stage III of NYHA with severe preterm labor at 35 weeks of gestation. The overall examination revealed a conscious patient, heart rate at 100 beats / minute, breath rate at 30 cycles / min, 110/60 mm Hg blood pressure and 90% SaO^2 under 5l / min of O_2. The chest auscultation showed a left pleural effusion. The obstetric examination revealed a fundal height at 30 cm, fetal mouvements were well perceived. The patient contracted at 4 times/ 10 min. There was no bleeding in the speculum examination. In the vaginal touch, the cervix totally effaced, dilated to 2 cm with cephalic presentation. Ultrasound showed a cephalic presentation, the estimation of fetal weight was 2300 g, an anterior placenta, the quantity of amniotic fluid was normal and the femoral inferior ossification point was less than 4 mm. Chest-X-rays radiography with abdominal protection noted a white hemithorax with mediastinal shift (Figure1). Biologic data were normal. C- reactive protein was at 35 mg/l. After a discussion between obstetricians, thoracic surgeons, anesthetist, and pediatricians, the decision was to make in a first time a pleural drainage and accept the natural delivery. The left pleural drainage had brought 1500 ml of a haematic liquid with a clear clinical improvement on the respiratory level without radiological cleaning. Bacterial analysis of the pleural liquid were negative. Therefore, natural delivery was accepted. Considering the favorable score of bishop, the patient was activated

by syntocinon® with a strict monitoring of maternal status, uterine contractions and fetal heart. The patient presented a cervical stagnation at 5cm over 2hours and C section was indicated. It was carried out under spinal anesthesia, allowing the extraction of a newborn baby boy Apgar 10/10 at, weighing 2350g. Examination of the newborn was unremarkable. He was transferred to the neonatal unit because of prematurity After delivery, the physical examination of the mother showed a marked improvement in respiratory status , SaO^2 92 % on room air. She was transferred in the third day after her delivry to the service of thoracic surgery for surgical exploration of the pleural effusion. Three months later the patient was operated through thoracotomy and a mediastinal mature teratoma was diagnosed and totally removed. Post operative course was uneventful.

3 DISCUSSION

Acute respiratory distress during pregnancy represent 2-10 % of the causes of maternal mortality, with fetal morbidity and mortality especially preterm birth [1]. During pregnancy there are physiological cardiovascular and respiratory modifications which explain that cardivascular or respiratory diseases can be affect seriously [2]. There are two causes of respiratory distress in pregnancy. The first one include obstetrical causes and represented by pre-eclampsia , eclampsia, amniotic fluid embolism , acute pulmonary oedema secondary to tocolytic treatment, acute liver steatosis in pregnancy and respiratory distress related to the pregnant state [3]. Fetal extraction is beneficial for the mother in these situations.

The second category includes non- obstetric causes represented by pneumonia or acute severe asthma..etc. In these situations, the child extraction is really controversial.

Fetal extraction increase functional residual capacity and improved thoracic compliance and gas exchanges. Assumptions for fetal extraction are represented by an increase in functional residual capacity and improved thoracic compliance and gas exchange. However, elements that are in disfavor of extraction are: prematurity, the risks increased by C-section, blood loss and the "physiological" stress of C-section [4-5].

Our patient had a left lung destroyed. Our attitude was to accept natural delivery and improve lung function. Indeed, a significant improvement was observed after delivery.

Figure 1: Chest-X-Rays with abdominal protection showing a left lung destroyed at 35 weeks of gestation.

4 CONCLUSION

The management of respiratory distress in pregnancy is primarily a multidisciplinary approach requiring the establishment of a delivery strategy. The fetal extraction will be decided case by case depending on the maternal condition, but especially of the term and fetal vitality.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest related to this article.

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