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## Case Report

# Outcomes of a Pregnancy with Asthma - A Case Report

## Abstract

Asthma is a chronic lung disease. The prevalence of asthma in pregnancy is 1-4%. Asthma can have a negative impact on maternal and fetal health. But it depends if treated adequately or not, during pregnancy. A high risk exists that asthma be complicated before and during delivery, but after delivery, it improves very soon. If asthma worsens during pregnancy, the increase in symptoms usually happens during week 24 to week 36 of pregnancy. If asthma was treated effectively during pregnancy, it can have little or no risk for complications. But, if asthma was severe or poorly controlled during pregnancy, can occur more complications, including: nausea and vomiting, vaginal bleeding, premature birth, pre-eclampsia, intrauterine growth restriction (IUGR), low birth weight, fetus with congenital malformations, complicated labor and neonatal hypoglycemia, tachypnea etc. There are many etiologic factors, that could cause asthma, including; allergens, dust mites, animal dander, etc. Then irritants as cigarette smoke, air pollution, and chemicals. Also, sinusitis, rhinitis, some medications as non-steroidal anti-inflammatory drugs (ibuprofen and naproxen), aspirin, beta blockers and others factors, including emotional stress and cold air. In our case, because of asthma the poorly controlled during pregnancy have happened complications as, preterm birth, PPROM, intrauterine growth restriction (IUGR), low birth weight and the need for neonatal intensive care.

## Introduction

Asthma is a chronic lung disease. The prevalence of asthma in pregnancy is 1-4%. In total, the mortality rate from asthma in the U.S. is 2.1 per 100,000 [1]. Asthma can have a negative impact on maternal and fetal health. If asthma was treated effectively during pregnancy, it can have little or no risk for complications. But, if asthma was severe or poorly controlled during pregnancy, can occur more complications, including: nausea and vomiting, vaginal bleeding, premature birth, pre-eclampsia, intrauterine growth restriction (IUGR), low birth weight, fetus with congenital malformations, complicated labor and neonatal hypoglycemia, tachypnea etc. If asthma worsens during pregnancy, the increase in symptoms usually happens during week 24 to week 36 of pregnancy. In general, most medications that used for asthma are safe during pregnancy. There are many etiologic factors, that could cause asthma, including; allergens, dust mites, animal dander, etc. Then irritants as cigarette smoke, air pollution, and chemicals. Also, sinusitis, rhinitis, some medications as non-steroidal anti-inflammatory drugs (ibuprofen and naproxen), aspirin, beta blockers and others factors, including emotional stress and cold air.

## Case Report

A 29-year-old pregnant, at 35+1 weeks of pregnancy, with a history of asthma, presented to the Department of Obstetrics with symptoms of premature labor, including; increased pressure in pelvis, backache, cramping in lower abdomen, contractions two every 10 minutes, increased vaginal discharge, PPROM and amniotic fluid leaking from the vagina, light vaginal bleeding. On vaginal examination is found, cervical dilation for 2 cm, and effacement for 80%, was soft and into an anterior position. Also, she had and signs and symptoms of severe asthma in pregnancy, including; chest tightness, difficulty breathing, sneezing and coughing, notably during the night, the dyspnea was followed by shortness of breath and difficulty in air avulsion, wheezing and headache. Fifteen years earlier, she was diagnosed for asthma and consistently treated for this disease. She had an abortion at 8 weeks of pregnancy and a delivery at preterm, with the same complications. Non-smoker, with body mass index (BMI): 28 kg/m<sup>2</sup>. Kosovar who resides in Germany, but that had come for holidays in Kosovo. After hospitalization, became complete blood count (CBC): white blood cell (WBC, leukocyte) count: 17.1 x 1000/mm<sup>3</sup>, red blood cell (RBC) count; 3.72 x 10<sup>6</sup> /mm<sup>3</sup>, hematocrit

(HCT): 49.8 %, hemoglobin (Hgb). 10.7 g/dl, mean corpuscular volume (MCV): 84 fL, mean corpuscular hemoglobin (MCH): 26.1 pg, mean corpuscular hemoglobin concentration (MCHC); 31 %, platelet (PLT, thrombocyte) count; 110 x1000/mm<sup>3</sup>, eosinophils; 11.6 %. In consultation was called pulmonologist, he did chest radiograph that shows an enlarged heart and some prominent lung markings. Also, he did pulmonary function testing that showed decreased of FEV<sub>1</sub>, FVC, PEF and an increase of RV, FRC, and TLC. During the physical examination was found: tachypnea, abdominal breathing, agitation, pulsus paradoxus (22 mm Hg), diffuse wheezes, diffuse rhonchi, bronchovesicular sounds, fever of 38.6°C (101.4°F), apathy and fatigue. Initially, the patient received treatment for asthma she is located on a cardiac monitor and pulse oximetry. After every 5 minutes was estimated patient, for the severity of the attack, and the response to treatment. The beta<sub>2</sub>-agonist (inhaled) is given in 3 doses over 60–90 minutes, Oxygen-therapy. Due to fever are applied the antibiotic (with a broad-spectrum action). After two hours, the patient's condition has stabilized, and labor activity continued. Is done also one vaginal examination and is found, cervical dilation of 5 cm, and complete effacement. After every 15 minutes done an echocardiographic assessment of the fetal heart rhythm and monitoring of mother for pulse, blood pressure, respiration, heart rate and measuring temperature. Within eight hours, after hospitalization the patient was born, with vaginal delivery, baby with body-weight 2000 gram, height 47 cm and Apgar score at 1 minute was five, while at 5 minute six. The baby was taken immediately in neonatal intensive care. The patient spends placental period and post placental without complications, but it remains under the continuous monitoring.

## Discussion

Asthma is a chronic inflammatory disease. Severe forms of asthma occur only in 0.2% of pregnancies. Clinical features of asthma during pregnancy are the same as those of asthma of non-pregnant patients. Asthma can be promoted by a number of factors, including; allergens, irritants, respiratory tract infections, non-steroidal anti-inflammatory drugs, emotional stress and cold air. Objective assessment through pulmonary function tests is essential in connection with the evaluation of the presence of airway obstructions.

Asthma can have a negative impact on maternal and fetal health. But it depends if treated adequately or not, during pregnancy. A high risk exists that asthma be complicated before and during delivery, but after delivery, it improves very soon [2]. If asthma worsens during pregnancy, the increase in symptoms usually happens during week 24 to week 36 of pregnancy. In severe asthma or poorly controlled during pregnancy, can occur more complications, including:

nausea and vomiting, vaginal bleeding, preterm birth [3], pre-eclampsia [4], intrauterine growth restriction (IUGR) [5], low birth weight, fetus with congenital malformations [6,7], complicated labor and neonatal hypoglycemia, tachypnea etc.

In our case, because of asthma the poorly controlled during pregnancy have happened complications as, preterm birth, PPROM, intrauterine growth restriction (IUGR), low birth weight and the need for neonatal intensive care. Treatment of this case has based to issue practice guidelines for the management of asthma during pregnancy by the American College of Obstetricians and Gynecologists [8].

## Conclusion

To prevent complications from asthma that may occur during pregnancy, must an adequate treatment of asthma. The basis of treatment remained; beta<sub>2</sub>-agonist inhaled, glucocorticoids, oxygen-therapy. Poorly controlled asthma is potentially dangerous for the fetus than the medication. Although, most medications that used for asthma are safe during pregnancy. So that should a good and proper antenatal care for women with asthma in pregnancy, to avoid complications from asthma.

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