

A Case of Primary Hyperparathyroidism-induced Myoclonic Seizure during the Third Trimester of Pregnancy

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Primary hyperparathyroidism is very rare during pregnancy, but it may impart significant complications to the mother and fetus. In the second trimester, the treatment of choice is a parathyroidectomy during the pregnancy. However, there is a controversy with regards to surgery during the third trimester. A woman was diagnosed with acute pancreatitis due to hyperparathyroidism at 32 weeks of gestation. Her hypercalcemia was normalized after medical treatment. She was recommended for a surgery. However, she didn't undergo surgery before delivery. She had a tonic-clonic seizure during labor. After a cesarean, the patient underwent a parathyroidectomy, which improved her medical condition. The neonate suffered from neonatal tetany. In this presented case, a refusal to perform this operation might be dangerous for the mother and baby even during the third trimester. Thus, the operative treatment for primary hyperparathyroidism should be considered even in women who are in the third trimester of pregnancy.

Keywords: Primary hyperparathyroidism; Seizure; Pregnancy

Abbreviations

NV: Normal Value; PTH: Parathyroid Hormone; CT: Computed Tomography; MRI: Magnetic Resonance Imaging

Introduction

Primary hyperparathyroidism is a rare condition during pregnancy. Although many cases of primary hyperparathyroidism that are diagnosed during pregnancy are asymptomatic or present with only mild symptoms, symptomatic cases are associated with severe maternal and fetal morbidity and mortality. Maternal complications include constipation, anorexia, nephrolithiasis, bone disease, muscle weakness, pancreatitis, mental changes, and finally, hypercalcemic crisis. In addition, intrauterine growth retardation, prematurity, intrauterine fetal death, and neonatal hypocalcemic tetany may occur in neonates [1]. An exact diagnosis and prompt management are important in order to prevent maternal and fetal complications. For patients with mild hyperparathyroidism, oral phosphates or diuresis with normal saline hydration could be tried. However, recently, surgical parathyroidectomy has become the treatment of choice for patients with hyperparathyroidism during pregnancy. Surgical treatment is strongly recommended especially during the second trimester. However, a parathyroidectomy during the third trimester of pregnancy is controversial because it poses risks for complications associated with general anesthesia, postoperative hypocalcemia, or other obstetric problems [2].

Here we report a case of a pregnant woman who was diagnosed with primary hyperparathyroidism at 32 weeks of gestation who did not receive an operation but who developed a seizure.

Case Report

A 32-year-old woman in her first pregnancy was referred to our emergency room at a gestational time of 32+4 weeks where she presented with abdominal pain that had developed 4 days prior to her visit. On the one hand, she experienced continuous nausea, epigastric tenderness and rebound tenderness. On the other hand, she did not experience diarrhea, vomiting, or costovertebral angle tenderness. Previously, she had no pathologic medical history, and the results of all her antenatal examinations were normal. She had a weight gain of 2

kg during her pregnancy and was normotensive (120/80 mmHg) and afebrile (36.6 °C). Blood tests revealed an elevated level of 1980 IU/L of amylase (normal values (NV) 54-168 mmol/L) and an elevated level of 2122 IU/L of lipase (NV 7-60 mmol/L). Her serum calcium level was 15.1 mg/dl (NV 8.2-10.8), her ionized calcium level was 1.72 mmol/L (NV 1.13-1.32) and her parathyroid hormone (PTH) level was 295.2 pg/ml (NV 15-65). Other laboratory tests, including those for serum electrolytes, thyroid function, and liver function, were all consistent with pregnancy. Fetal sonography showed no abnormal findings; however, transabdominal sonography showed hyperechoic medullas in both kidneys, which implied medullary nephrocalcinosis. Sonography of the thyroid revealed a 4.6 cm-sized parathyroid adenoma with cystic changes arising from the left upper parathyroid gland. The parathyroid adenoma was detected by a fine needle aspiration biopsy of the parathyroid gland. The patient was diagnosed with acute pancreatitis and hypercalcemia associated with primary hyperparathyroidism. Treatment began with fasting and hydration with a physiologic saline solution. After conservative treatment for 5 days, her serum calcium level decreased to 12.8 mg/dl. Parathyroidectomy was recommended to the patient, but she refused and wanted to return home. After that, she had not visited our hospital before 37+2 weeks of gestation. At that time, she again refused a parathyroidectomy before delivery. Her calcium level was 12.7 mg/dl, and her ionized calcium level was 1.65 mmol/L at 37+2 gestational weeks. Her Bishop score was just one. Labor was induced with 10 mg Dinoprostone followed by an infusion of oxytocin via hydration. Continuous external fetal heart rate monitoring was applied throughout the labor. The fetal heart rate and the degree of uterine contractions were consistent with normal progress of labor induction. Three hours after oxytocin infusion, the cervix was fully dilated, and the

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during pregnancy is the preferred treatment even in the third trimester in pregnant women with hyperparathyroidism.

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