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Massive vulvar edema in a woman with complicated preeclampsia

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ABSTRACT

In this case study we report a massive vulvar edema in a 19-year-old primigravida women with complicated preeclampsia at 36 weeks of gestation. The massive vulvar edema appeared 3 days prior to admission and was visibly worsening within the first few hours of admission. According to the patient, the blood pressure before hospitalization was within normal range, but during the admission, the blood pressure was high and the blood panel results have shown the severe proteinuria. The immediate cesarean section was indicated because the fetus and mother were in distress. The blood test results and vulvar edema had resolved within few weeks after the procedure. Therefore, the aim of this study is to show how serious can a preeclampsia get and how important is to urgently respond with conservative or surgical management to this complicated condition with a worsening scenario, because it is an extremely difficult situation for a clinician when the serious conditions present atypically.

Keywords: complicated pregnancy, vulvar edema, preeclampsia.

Introduction

Preeclampsia is a unique disease related to human pregnancy and it is a multi-systemic organ disorder characterized by new-onset hypertension and/or proteinuria after 20th week of gestation. Approximately ten percent of women have high blood pressure during gestation, and preeclampsia complicates 2 to 8 % of pregnancies [1]. This condition is extremely serious and may result in endangered life of both mother and the fetus. Preeclampsia ranges from a mild disease to a severe form and can lead to damaging liver, kidneys, brain and clotting system. Risks for fetus include prematurity and poor growth [2]. However, thus two criteria of high blood pressure and proteinuria are considered the classic definition of preeclampsia, some women may present with hypertension without presence of excessive protein excretion or even with symptoms that are not related to the illness itself. Those women then have the multi-systemic organ damage which signs in association with thrombocytopenia (platelet count less than 100.000/microliter), impaired liver function, renal insufficiency and/or other organ dysfunctions [3]. Being such a serious condition, preeclampsia sometimes worsens and presents with other different symptoms

Case report

In this study report we present a case of 19-year-old primigravida who was admitted to the Department of Pathological Pregnancy in Vilnius University Hospital Santaros Klinikos Center of Obstetrics and Gynecology. The patient was admitted due to severe painful edema in her perineal area. There were no documentation of any prior prenatal care. On admission, the general state was adequate, blood pressure of 169/113 mmHg, body temperature at 36,6 °C. On obstetrical ultrasound examination the fetus was in cephalic presentation, estimated weight was 2461 g, fetal heart rate was regular at 135 beats per

minute. Physical development by ultrasound was estimated at 36 weeks. Cervical length – 1,4 cm. Fetal non-stress test was reactive. Women's pelvic examination including inspection of the vulva and perineal area showed massive vulvar edema.

During first hours of admission, the blood tests were done. Urine analysis during the admission showed positive severe proteinuria at 82,3 g/l. Blood analysis showed leukocytosis of 16,41 *10⁹/l, neutrophilia of 13,5 *10⁹/l, LDH at 276 U/l and D-dimers at 1885 mkg/l. In consideration of the worsening blood test results, patient's state and the elevated blood pressure during admission, the diagnosis of complicated preeclampsia was made. The conservative treatment was administered. It included anti-hypertensive treatment with methyldopa and magnesium-sulfate. Patient was then transferred to the Obstetrics unit. At this point fetal non-stress test was still reactive, but the urgent cesarean section was indicated, because the pain and vulvar edema has worsened during the first few hours of admission. This rare complication was a warning sign which meant that the fetus and mother was in distress. The consultation with doctors from the Center of Obstetrics and Gynecology was called and the urgent cesarean section was performed. It resulted in the delivery of a female baby. Birth weight was 2710 g, APGAR score of 8 at the first and 9 at fifth minute was documented. No other complication during the procedure were reported. During the post-partum period the patient was treated in the intensive care unit for a first day and then transferred to the Obstetrics unit. The anti-hypertensive treatment of labetalol and nifedipine was appointed as also the magnesium sulfate, analgetics for the pain, and octenisept was administered to the vulvar area. The blood results have normalized within few days after the operation and the vulvar edema dissolved within two weeks after hospitalization.

Discussion

Complicated preeclampsia in addition to protein in the urine and high blood pressure, usually presents with abdominal pain, severe headaches, reduced urine output, nausea or other clinical manifestation as many organ systems are being affected. Thus, edema is common and typically found in the lower extremities, face or hands. However, the complication of massive edema confined to the labia and associated with complicated preeclampsia is extremely rare [6,7]. As there only have been just a few reports of such cases, this condition should be taken seriously and may be used as a diagnostic tool to indicate the severity of preeclampsia [8]. While the exact pathophysiology of preeclampsia remains poorly understood, the disease is characterized by both systemic and localized vascular endothelial dysfunction [9]. During pregnancy edema is usually caused by the increase in blood volume, blood pressure and vascular permeability, as the compression of the inferior vena cava by growing uterus is common. Additionally, decreased renal and liver function is also implicated in that it affects serum protein concentration and the mechanism of rennin angiotensin activation causes fluid retention. Hence, many of these mechanisms may result in both systemic and localized edema, as vasculature leaks fluid into the interstitial spaces. For pregnant patients this can be restricted to the labia as it is the lowest point in the body [9]. Management of this complication is necessary since it may be painful, uncomfortable for the patient, may cause the occlusion of the vaginal outlet and may endanger mother and the fetus. Treatment in these situations may vary from ice packs or Trendelenburg positioning to mechanical drainage using surgical techniques. However, which decision ought to be made during these complications is under discussion, but in some cases the conservative measures are not enough and delivery becomes urgent and the cesarean section may be necessary. Prolonged edema might result in necrosis and vascular tissue

damage, thromboembolic complications or even rupturing. In this case study, delivery was by cesarean section and the vulvar edema resolved gradually in the post-partum period.

With this case study report we aim to alert clinicians because the incidence rate of preeclampsia is increasing and so will the complications relating this condition [10]. Vulvar edema must always be taken as a poor prognostic sign, especially in the complicated preeclampsia and appropriate response of conservative or mechanical management should be rapidly delivered. If not treated accordingly, this condition may result in many serious complications. Conclusively, if vulvar edema is managed by cesarean section, as in this case study, the outcomes may be favorable and result in adequate delivery and post-partum results.

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