Intraserebral Hemorrage During Pregnancy: Case Report

Gebe Hastada İntraserebral Kanama: Olgu Sunumu

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ABSTRACT

Cerebrovascular accidents have a tendency to increase in pregnancy period because of different reasons. These events during pregnancy increase the risk of maternal and fetal complications. Pregnant patients who admit to ED with atypical neurological symptoms should be evaluated and followed more carefully. In our case, we showed a young pregnant woman with intracerebral hemorrgage (ICH) that was not found any reason for etiology and misdiagnosed in other center.

Key words: Intracerebral hemorrhage, pregnancy, young women, hemorrhage

ÖZET

Serebrovaskuler olaylar farklı nedenlerden dolayı gebelik periyodunda artma eğilimindedir. Bu olgularda anne ve bebek açısından komplikasyon gelişme riski artmaktadır. Acil servise atipik nörolojik bulgularla başvuran gebe hastalar dikkatlice ele alınmalıdır. Olgumuzda başvurduğu önceki merkezlerde tanısı atlanan ve etyolojisi saptanamayan genç gebe hasta tartışılmıştır.

Anahtar Kelimeler: İntraserebral kanama, gebelik, genç kadın, kanama

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INTRODUCTION

Cerebrovascular accidents (CVA) during pregnancy have increased the risk of maternal and fetal and other neurological complications. CVA contributed to almost 12% of all maternal deaths [1]. Incidence of intracerebral hemorrhages (ICH) in women between 15 and 44 years-old is found 5.0 patients with non-pregnancy-related ICH per 100,000 person-years. Incidence of ICH is 6.1-7.1 patients with pregnancy-related ICH per 100,000 deliveries. Mortality range for pregnancy-related ICH was found 20.3-40% [2].

The studies show that pregnancy increases the risk for ICH related to the postpartum period[2]. The most of the studies revealed that ICH has highest rate in the postpartum period[2]. Also pre-partum-ICH rate was highest in Asian population [3].

Reasons of CVA during pregnancy in literatures were stated as preeclampsia, eclampsia, hypertensive attack, an aneurysm or an arteriovenous malformation, familial cardiovascular risks, maternal age of 35 or older and particularly hypertension and hormone changes during pregnancy period [1-8]. In the first pregnancy period, many women are affected by hypertensive problems [9].

In a small part of the patients had not found any reason for CVA during pregnancy period [1,3].

In our case, we showed a young pregnant woman with ICH that was not found any reason for etiology and misdiagnosed in other center.

CASE REPORT

A 30-year-old woman in 5th months of her pregnancy was admitted to the Emergency Department (ED) with dysarthria. Her profession was basketball coach. One day before admission, during basketball game, she had a near syncope attack. She had admitted a county hospital and evaluated and followed for 4 hours. It was not thought as serious complaints and discharged from there.

On her admission to our department, the patient was awake and alert. Her Glasgow Coma Scale was 15, cognitive functions were semi-impaired, speech was slowed down and hand writing was impaired. She had minimal right-sided paresthesia, paraplegia and ataxia. Other system findings were found in normal ranges. Her blood pressure and vital signs were in normal ranges. Prothrombin time, partial thromboplastin time, INR, thyroid function tests, Protein C activity, Active Protein C resistance, Von Willebrand Factor, Free Protein S, Factor V and VII were also in normal ranges. In her family history, father and mother had hypertension.

Emergent MRI on admission revealed that hemorrhage in brain parenchyma with dimensions of 3.5x2x3 cm in left parietal area with cerebral edema (*Figure 1*).

Fetal ultrasonography was evaluated as normal by gynecologists. Patient was admitted to the neurosurgery critical care unit (NCCU). Cerebral angiography was performed in second days of hospitalization and reported as normal (*Figure 2*).

In the NCCU, her cognitive functions and neurological examination returned to normal levels. And she was discharged after seven days of hospitalization. She had been followed during pregnancy period by neurosurgeon and gynecologist.

In her hospitalization period, she had no medical treatment (steroids, anticonvulsants or mannitol) because of potential risks on her baby.

Caesarian section was performed for labor because of patient's preference. Her baby was healthy and no gestational anomaly. One month and two months after caesarian section, second and third cranial MRI was performed and resorption of hematoma was observed (*Figure 3*).

***Figure 1**. Emergent MRI paranchymal hemorrhage with dimensions of 3.5x2x3 cm in left parietal area with cerebral edema*

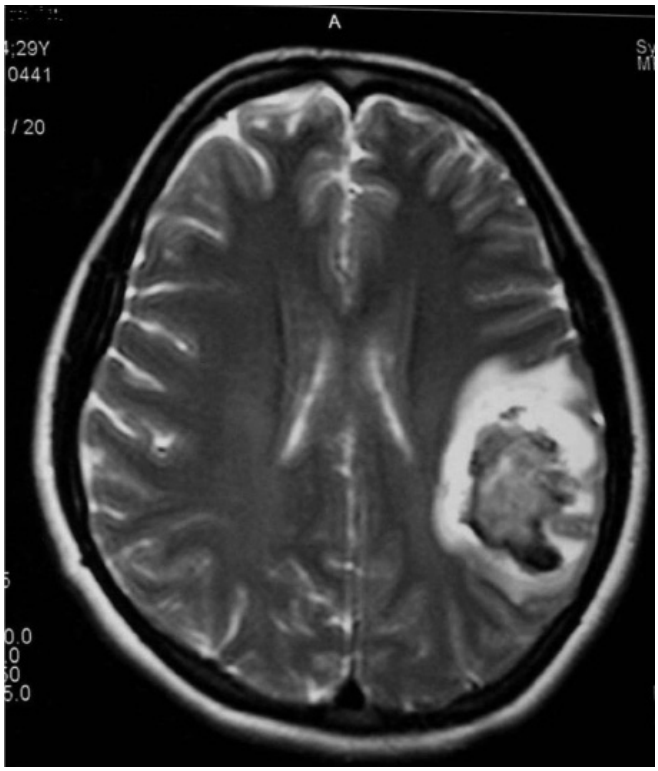

***Figure 2**. Cerebral angiography in second day in normal ranges*

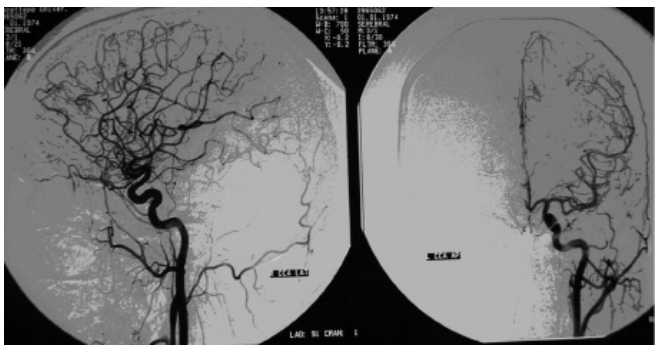

***Figure 3**. MRI after 1 month.The hematoma was resorbed*

DISCUSSION

Although CVA during pregnancy is uncommon disease, approximately one-fifth of women with pregnancy related ICH died [(2)].

Witlin et al. series, 24 cerebrovascular disorders were detected in pregnancy period. Six of these patients were diagnosed as ICH. In three patients, there were not found any etiologic factor [(1)].

Kittner SJ et al. found more risk in the postpartum period than during pregnancy as relative (2.5 versus 28.3) for ICH [(5)].

Jeng JS et al. found 19 ICH and 3 subarachnoid hemorrhages in 402 women who have CVA during pregnancy. The most important etiologies for ICH were eclampsia (37%) and arteriovenous malformation (26%) [(6)].

Simolke GA et al. found six women with ICH in pregnancy or the puerperium period. Reasons of hemorrhagic strokes were found as chronic hypertension or preeclampsia [(9)].

Jeng JS et al. showed that 12.2% of all strokes occurred during pregnancy or the puerperium. They defined etiologies of pregnancy related hemorrhages as 37% preeclampsia/ eclampsia and hypertensive cerebral hemorrhage. They were not found any etiologic reason in 21% of all pregnancy related hemorrhages [(10)].

Our case, we met a young pregnancy woman with ICH that has not any reason for etiology. We found no hematological and radiological abnormalities. She had no preeclampsia/ eclampsia symptoms. Because of her family had hypertension and her extreme physical effort during the event, the patient may have transient hypertensive attack.

In literatures it was stated that different mortality and morbidity rate both for mother and fetus related hemorrhages during pregnancy [(1,2,9)]. In our case, both of them were lived as healthy without any surgical intervention.

Antiepileptic drugs (AEDs) have been associated with an increased risk of major congenital malformations, minor anomalies, specific congenital syndromes, and developmental disorders seen in childhood[11]. Epidemiological studies demonstrated an increased risk of teratogenesis in mothers who use AED's in pregnacy period[12]. The risk of major congenital malformation in infants or mothers who use AEDs is aproximately 4-8% compares with general population (2-4%). The effects of polytherapy with AEDs have greater risks compared to monotherapy[13]. Specific AEDs have higher risk of major congenital malformations, such as songenitak heart disease and cleft palate with phenytoin and the barbiturates, and neural tube defects with valproic acid and carbamazepine [(14)]. Valproate increases the frequency of congenital malformations more than other AEDs[15].The use of AEDs in pregnant woman is delicate balance between seizure control and adverse affectes of AEDs, which are both potentially harmfull for developing fetus [(16)].

Antenatal corticosteroid administration has an increased risks of infections and a higher incidence of endometritis and chorionamnionitis in patients with premature rupture of membranes. Negative fetal effects of antenatal corticosteroids are a reduction of fetal body and breathing movements and a reduction of fetal heart rate variation which are important markers of hypoxemia. In addition, multiple courses of steroid administrations are associated with an increased risk of early-onset neonatal sepsis [(17)].

Walfisch et al recommend that a single dose of antenatal corticosteroids can be given to women at risk for preterm birth at 24–34 weeks' gestation. Multiple courses of antenatal corticosteroids should be used cautiously while weighing the risks and benefits in each individual case [(18)].

Bain et al, Jahnsson et and Basso et al, reported that mannitol (molecular weight 182) which is inert, uncharged, hydrophilic molecule believed to cross the placenta and other epithelia by passive diffusion [(19,20,21)].

In our case, in guidance of literatures, AEDs, steroids and mannitol were not used for potential adverse effects on fetus.

CVA has a tendency to increase in pregnancy period due to hormonal changes. Misdiagnosis of these patients can result in increasing morbidity and mortality for both the mother and fetus. Pregnant patients who admit to ED with atypical neurological symptoms should be evaluated and followed more carefully.

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