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Research Paper

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Successful Treatment of a Pregnant Patient Followed Up in the Intensive Care Unite Due to Brain Abscess

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ABSTRACT

Though brain abscess is observed rarely in pregnancy, it is a complication that may result in a poor prognosis for both mother and baby. Its symptoms are usually nonspecific; however, central nervous system findings such as headache, attack, neurologic anomalies and changes in consciousness may also be observed. In this study, we aimed to present a 26-year-old patient, pregnant for 24 weeks, requiring mechanical ventilation support in the intensive care unit due to brain abscess, who was successfully treated. For similar cases, a multidisciplinary approach and an early and adequate antibiotic treatment are required.

INTRODUCTION

Brain abscess in pregnancy is a rarely observed, but life-threatening complication (1). It may result in a poor prognosis for both mother and baby. The mortality rate is around 30% (2). Although there are predisposing factors such as a pre-existing infection, foreign body or immunosuppression, more than 30% of the cases do not have any risk factors (1). It is reported that it mostly develops secondarily to bacterial infections (2). In this study, we aimed to present a pregnant patient who was treated with success in the intensive care unit due to brain abscess.

CASE

Since the 24-week pregnant patient, aged 26 years with G1P0Y0, underwent syncope in her house, she was brought to the emergency service by her relatives. In the history taken from the family, we were informed that the patient, who was alone at home, was found lying on the floor after a short-time syncope and she may have hit her head to the floor while falling down. The patient evaluated as a head trauma demonstrated a Glaskow Coma Scale (GCS) of 15/15; and we were informed that she was brought to the emergency service on foot. However, in the 12th hour of the follow-up of the patient in the emergency service, GCS was observed to decline. In the examination, the patient was on spontaneous respiration and her eyes were open. In the neuromotor examination, there was an extensor response in the higher extremity and minimal extraction in the lower extremity to painful stimulant. In the cranial magnetic resonance imaging (MRI) applied to the patient whose GCS was evaluated as 7/15, there were areas matching with multiple micro abscess in the bilateral parietal lobes (Figure 1). The patient demonstrating neck stiffness, high C-reactive protein and leukocytosis was suggested to be followed in the intensive care unit with prediagnoses of meningitis, septic emboli and cardiac emboli by the neurology and infection diseases department. The cardiology department applied echocardiography and trans-esophageal echocardiography. No infective focus was detected. No surgical treatment was suggested in the evaluation performed by the brain surgery clinic. The patient who received lumbar puncture after being taken to the intensive care unit demonstrated CSF biochemical values in compatible with the bacterial meningitis; however no fertility was detected in the culture. The results of the patient who underwent ARB and PCR studies in terms of tuberculosis meningitis were negative. The serologic and parasitological tests on the patients were also negative. While the patient, whose antibiotherapy (ceftriaxone and vancomycin) was regulated, was being followed up in the spontaneous respiration, a respiratory problem arose on the 3rd day and, upon this, the patient was intubated and connected to the mechanical ventilator. After the patient was followed up on mechanical ventilator for 9 days, she was extubated and received respiratory physiotherapy. The women's diseases and birth clinic applied daily ultrasonography. No pathology was observed in the baby. Since Acinetobacter Baumanni developed in the blood culture taken from the patient with a fever of 38.2 0C on the 21st day, the infectious diseases department suggested to continue the antibiotherapy with cefoperazone and vancomycin. On the 27th day, control cranial MRI was applied (Figure 2). It was observed that the micro abscesses in the patient were not reduced. The patient was mobilized with wheelchair on the 30th day. The recovery in motor functions was very slow in neurological examination. On the 32nd day, the power loss was 4/6 in the upper extremity and 3/6 in the lower extremity. It was deemed appropriate for the patient to be followed up in infectious diseases clinic. The patient completing a 6-week antibiotherapy in the infectious diseases department was discharged in a fully healthy state.

DISCUSSION

The immunity of the mother decreases due to hormonal imbalance during pregnancy. For this reason, life-threatening infections such as brain abscess can be observed, though rarely (2). Brain abscess in pregnant patients is associated with dental treatment; and cases developing after sinusitis and otitis media have been reported (3,4,5). It has been reported that 26.6% of the affected pregnant patients were infected with helicobacter

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pylori (2). In our patient, there was no dental focus or helicobacter. There was also no focus in the cardiologic examinations we conducted to determine whether there was an infective focus. However, there was an influenza history beginning 1 week before the patient was brought to the emergency service and continuing lightly. In the gram coloration applied after intubated on the 3rd day, gram (-) basils were observed. However, there was no reproduction in the deep tracheal aspirate culture. We think that the infectious focus was nasotracheal.

The symptoms of brain abscess are usually nonspecific; however central nervous system findings such as headache (75%), neurological anomalies (58%), consciousness changes (67%) and attack can be observed (1,2). In our patient, only instant unconsciousness history was present. It is suggested that the diagnosis must be confirmed with aspiration of purulent material (1). However, the focuses in our patient were small and multiple. Therefore no aspiration was suggested.

Computed tomography must be avoided due to harmful effects of radiation in diagnostic imaging in pregnant patients. It has been reported that MRI can cause thermal skin damage due to high magnetic area in the first trimester though it is safe and highly sensitive (2). Since our patient was in the 2nd trimester, we preferred cranial MRI. However, since ventilator associated pneumonia developed, we had to take lung graph 2 times.

It was reported that surgical drainage may also be required often in brain abscess treatment as well as antibiotics (1). Hobson (3) and Braun (6) presented cases who were treated successfully through surgical methods. In our patient, the brain surgery department did not suggest any surgical treatment due to the sizes and numbers of the lesions. In antibiotherapy, it is suggested to use the antibiotics specific to bacteria reproduced in the culture and passing through the blood-brain barrier for 6-8 weeks (2). Steroid drugs are not suggested since they may affect the development of the central nervous system by passing to the fetus through placental access. If epilepsy is developed, use of antiepileptics is suggested (2). Since our patient did not develop brain edema and epilepsy, anti-edema treatment and use of antiepileptics were not required. The antibiotherapy continued for 6 weeks.

Our patient is the first pregnant case who needed mechanical ventilation support in the intensive care unit due to brain abscess and was treated with success. A multidisciplinary approach comprising neurology, obstetrics, neurosurgery, infectious diseases and reanimation specialists and an early and adequate antibiotic treatment are required for these patients.

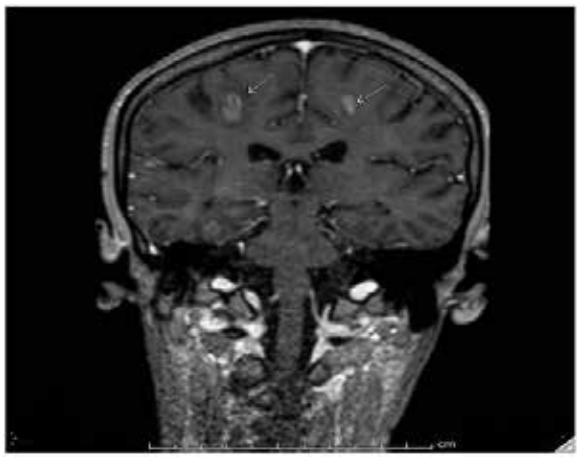

Figure 1: Cranial MRI image of the patient

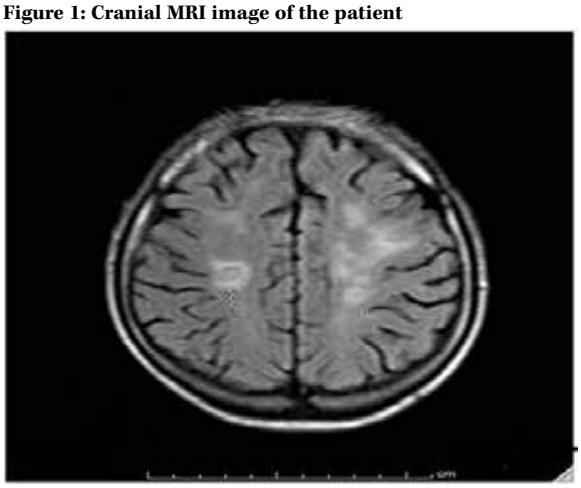

Figure 2: Cranial MRI image of the patient

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