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Traumatic Brain Injury During Pregnancy: A Case Report

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ABSTRACT

These cases represented significant challenges in the areas of intensive care, obstetrics, and ethics. A previously healthy 30-year-old elderly primigravidae, G1P0, presented at 28 weeks' gestation with road traffic accident. The patient was transferred by ambulance to our institution for management. On admission, the patient was afebrile with stable vital signs. The patient suffered mild head injury with GCS (Glasgow coma scale) of 13/15 with one episode of vomiting on the way to hospital.

Introduction:

Pregnancy imposes significant physiologic demands that may confuse and complicate the evaluation, resuscitation, and definitive management of pregnant women. Advances in life-support technology and critical care have enhanced the maintenance of vital organ systems. Traumatic injury affects 6% to 8% of all pregnancy.[1,2] Foetal death exceeds that of maternal death by nearly threefold.[3] Management of traumatic brain injury in the pregnant patient depends on the severity and type of brain injury. We report a case of 28 weeks elderly primigravidae who met a motorbike accident in which she received mild head injury. The main principle guiding therapy must be that resuscitating the mother will resuscitate the foetus.

Case History:

A previously healthy 30-year-old elderly primigravidae, G1P0, presented at 28 weeks' gestation with road traffic accident. The patient GCS was 13/15 with one episode of vomiting on the way to hospital. Urgent surgical intervention was planned because of deteriorating GCS and symptoms of raised intracranial pressure. Before admission, her pregnancy had been uneventful. An emergency non contrast computed tomography (NCCT) scan showed left temporal contusion for which emergency neurosurgery consultation was done.[4]

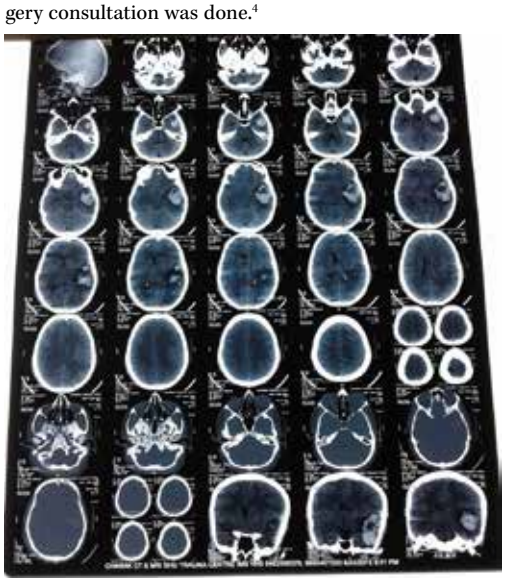

Figure 1 Radiological picture of the lesion. Non contrast computed tomography (NCCT) scan showing a large irregular heterogeneous density area in left temporal lobe.

A targeted ultrasound was obtained on admission and revealed an intrauterine pregnancy at 28+/-2 weeks' gestation with no foetal or placental anomalies. All of routine laboratory values were within normal limits. After explaining the risk benefit to the patient attendant emergency LSCS was done under general anaesthesia due to foetal distress. As this was premature delivery the neonate was kept in neonatal intensive care unit. Steroids can help accelerate foetal lung maturity, but their use is no longer recommended in head injury patients due to an associated increase in mortality.[5] Urgent neurosurgical intervention was planned because of deteriorating preoperative GCS and symptoms of raised intracranial pressure. Treatment of increased ICP should occur when pressures exceed 20 to 25 mm Hg, and hyperventilation, and pharmacologic interventions (mannitol, furosemide, hypertonic saline, and steroids), hypothermia, and surgery are therapies that may be used.[6] Neurosurgeons evacuated the left temporal contusion. Then patient was shifted to intensive care unit in trauma centre for elective extubation. On the first postoperative day patients was very agitated and disoriented so she was given sedation for whole day and extubation was postponed for the next day. On second postoperative day patient, sedation was stopped and patient condition was evaluated. She was oriented and following commands so extubation was done. On the third postoperative day she was doing well and shifted to HDU (high dependency unit) from ICU.

LEGAL AND ETHICAL CONSIDERATIONS:

There are many legal and ethical questions that arise in cases where a pregnant woman is unable to make decisions regarding the care of herself or her foetus. Because few women are prepared for such a devastating event, advanced directives of their wishes in pregnancy are extremely rare. Such cases require a surrogate decision-maker, which is generally assigned to the next of kin.The patient's husband was assigned to be the patient's surrogate for making decisions about health. One can perceive how such cases can be associated with major conflict between surrogates and other members of the family and care providers, adding more stress to an already difficult situation.

Discussion: The pregnant trauma patient presents a unique challenge to emergency physicians because care must be provided for two patients-the mother and the foetus- and sometimes in acute circumstances may demand immediate, simultaneously and multidisciplinary management. Care of pregnant patients with head injury often requires multidisciplinary approach involving an intensivist, neurosurgeon, obstetrician, anaesthesi-

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ologist and neonatologist. The primary initial goal in treating a pregnant trauma victim is to stabilize the mother condition. The priorities for treatment of an injured pregnant patient remain the same as those for the nonpregnant patient.

Conclusion:

Maternal brain injury during pregnancy is rare occurrence. This case report summarizes successful outcome that have been achieved in such cases. Our case demonstrates the standard care of management with an intensive multidisciplinary approach using expertise in the areas of critical care, anaesthesiology, obstetrics, neonatology, ethics, and social work.

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