



## SUBARACHNOID HAEMORRHAGE IN PREGNANCY

### Case 1: Ruptured Berry's aneurysm

**A** 29 year old Malay lady was in the early stage of her second pregnancy. She works as an electronic factory operator. While working, at 1500 hours, she complained of headache and felt "sleepy". She had just changed her posture from sitting to upright position when she suddenly fell down against a pile of soft boxes.

There was no history of fever, vomiting or seizure. She was brought to a private clinic in an unconscious state, accompanied by her friends using the company van at 1525 hrs and was found to have no signs of life. She was immediately sent to the hospital and arrived at 1610 hrs. She was pronounced dead on arrival.

The patient had not received any formal antenatal check up for her current pregnancy. She had no previous medical, surgical or psychiatric illness and was not on any

medications. She had no previous history of alcohol or drug abuse. Her previous pregnancy was uneventful.

Postmortem examination was performed on the next day. There was presence of subdural hematoma and a disrupted right middle cerebral artery with blood clot consistent with diagnosis of ruptured Berry's aneurysm. The uterus was gravid with intrauterine male fetus weighing 240g.

### Case 2: Brain death - possible intracranial haemorrhage due to hypertension

**A** 39-year-old housewife, para 5+1, had an uneventful pregnancy with 10 antenatal visits. Her blood pressure was normal throughout the pregnancy. She had an uneventful vaginal delivery on 28th Oct 1999 in a government hospital. There was no documented episode of any hypertension and was discharged well the next day. She had 2 normal postnatal home visits on 29<sup>th</sup>

October and 9<sup>th</sup> November with documented blood pressure of 110/70. She had no previous medical, surgical or psychiatric illness and was not on any medications. There was no previous history of alcohol or drug abuse. Her previous pregnancies and deliveries in the last 10 years were uneventful.

She had complained of cramping neck pain and occipital headache for 3 days prior to her present admission i.e 17<sup>th</sup> postpartum day associated with sudden loss of consciousness at home. There was no seizure, fever or vomiting and no preceding or vomiting and no preceding head trauma. A general practitioner was called and it was noted that her blood pressure was high with a systolic blood pressure >200mmHg. She was rushed to the nearest hospital. She was comatose on arrival and unresponsive with GCS 3/14. She was in decerebrating posture and the blood pressure was 100/60mmHg. The pupils were fixed and dilated. There was no gag reflex, Doll's eye sign or neck stiffness. She was

immediately intubated and ventilated and was nursed in ICU. The subsequent assessment confirmed that she had clinical brain death. CT or MRI was not performed due to her unstable condition. Family members requested AOR discharge on the next day and were transferred home by a private ambulance with ambubagging. She died at home on arrival.

### Discussion

Intracranial haemorrhage (subarachnoid and/or Intraparenchymal) from an aneurysm or arteriovenous malformation is a rare but a serious complication associated with pregnancy. Although rare, the morbidity and mortality from intracranial haemorrhage during pregnancy is significant; maternal mortality rates of 73 to 83% have been described, although most series report a maternal mortality of 40 to % accounts for 5 to 12% of all maternal deaths in pregnancy.

It is always useful whenever intracranial haemorrhage due to aneurysms or arteriovenous malformation is suspected that confirmatory diagnosis by angiograms is performed. However it is not always possible to carry out this investigations especially so in our country due to lack of facilities. Therefore it is useful to try and identify the possibility of this grave

diagnosis based on the clinical history.

Arteriovenous malformation occurs commonly in younger age groups between 20 and 25 years. They usually have a lower parity and can bleed anytime throughout pregnancy. The two periods of greatest incidence of bleed is said to be 16 to 20 weeks and 30 to 40 weeks. In contrast aneurysms commonly occur in the older age group with higher parity. They are six times more likely to have a normal preceding pregnancy than their counterpart with arteriovenous malformation. However, the prognosis of patients whose subarachnoid bleed is due to aneurysms is much worse.

In the first case illustration the confirmatory diagnosis was made at postmortem. In this case she probably had a sudden bleed that was fatal. In the second case the clinical features suggested that she probably had subarachnoid bleed from aneurysm. However, in this situation the bleed was probably not related to pregnancy as it occurred on the 17<sup>th</sup> postnatal day where the cardiac changes in pregnancy (which has been said as one of the contributing factors) to bleeding has probably returned to normal. Therefore, one could classify that as fortuitous death. However, in the first case the bleed occurred during pregnancy. It is known that pregnancy

increases cardiac output and in someone who has aneurysms it increases the chances of a bleed. The death would be indirectly related to pregnancy.

### References

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