

Subarachnoid Hemorrhage of Unknown Origin During Pregnancy: Case Report

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Subarachnoid hemorrhage (SAH) is a stroke subtype resulting from leakage of blood. The incidence of SAH during pregnancy varies from 1 to 2 per 10000 pregnancies. The most frequent (%85) cause of SAH is a ruptured cerebral aneurysm.

A 39-year-old woman at 33 weeks' gestation experienced abrupt onset of severe headache, neck stiffness, photophobia, and vomiting and was admitted to the hospital and diagnosed as SAH. On neurological examination, no deficits were apparent. A magnetic resonance imaging showed a subarachnoid hemorrhage. Lumbar puncture was performed and SAH was confirmed. It was decided to proceed with a caesarean section. After cesarean delivery of a healthy infant, the patient immediately underwent cerebral angiography, which was normal. Eight days after the initial cerebral angiography, a second angiography demonstrated a suspicious aneurysm and vasospasm; therefore a third angiography was performed and was found normal. At discharge and at clinical follow-up, our patient was asymptomatic.

Patients with significant SAH and negative cerebral angiography findings should be considered for further diagnostic testing including repeat cerebral angiography.

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Key Words: Subarachnoid hemorrhage, Pregnancy

Introduction

Subarachnoid hemorrhage (SAH) is a stroke subtype resulting from leakage of blood. The incidence of SAH during pregnancy varies from 1 to 2 per 10000 pregnancies.¹ The most frequent (%85) cause of SAH is a ruptured cerebral aneurysm.² SAH classically presents with severe headache of sudden onset, often accompanied by features of meningeal irritation such as stiff neck, fever and photophobia.³

We report a case and provide a comprehensive review of the literature on SAH during pregnancy.

Case Report

A 39-year-old woman at 33 weeks' gestation experienced abrupt onset of severe headache, neck stiffness, photophobia, and vomiting and was admitted to the hospital and diagnosed as SAH. The patient was then transferred to our institution for further evaluation and treatment. She was non-hypertensive and non-diabetic and had no previous history of cerebrovascular accident. Her previous three pregnancies were

uneventful. On neurological examination, no deficits were apparent. A magnetic resonance imaging showed a subarachnoid hemorrhage (Figure 1).

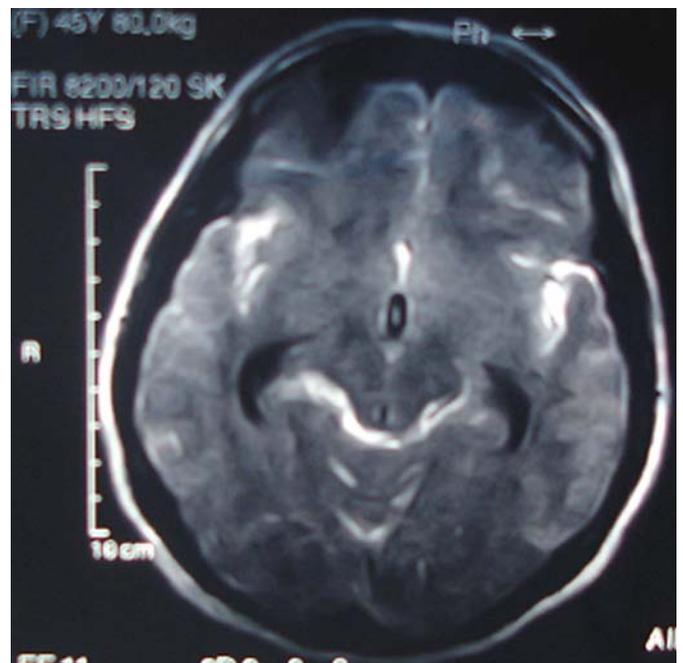


Figure 1: MRI scan on admission showing subarachnoid hemorrhage

Lumbar puncture was performed and SAH was confirmed. It was decided to proceed with a caesarean section. After cesarean delivery of a healthy infant, the patient immediately underwent cerebral angiography, which was normal (Figure

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2). Eight days after the initial cerebral angiography, a second angiography demonstrated a suspicious aneurysm and vasospasm; therefore a third angiography was performed and was found normal. At discharge and at clinical follow-up, our patient was asymptomatic.



Figure 2: Normal cerebral angiogram

Discussion

Cerebrovascular disorders including intracranial hemorrhage during pregnancy are serious and uncommon complications. Irrespective of the cause, parity, or gestational age, intracranial hemorrhage occurs antepartum in 92% of patients and postpartum in 8%.> 85% of subarachnoid hemorrhages occur in the second or third trimester. Common causes include ruptured berry aneurysm, arteriovenous malformation, hypertensive intracerebral hemorrhage, eclampsia, anticoagulant toxicity, bleeding disorders, and (rarely) bleeding into a brain tumor or cocaine use.⁴ In our patient, the cause of the hemorrhage was idiopathic.

The clinical characteristics of SAH in the parturient are similar to the nonpregnant population and include sudden onset severe headache, nausea and vomiting, neck stiffness, photophobia and blurry vision as seen in our patient.

The diagnosis of SAH in pregnancy does not differ from those in the general population. Suspected eclampsia unresponsive to magnesium sulfate therapy warrants an immediate neuroimaging study.⁵ Due to our previous experience,⁶ cerebral angiography was delayed after cesarean section. After cesarean delivery, the patient immediately underwent cerebral angiography, which was normal. Patients with significant SAH and negative cerebral angiography findings should be considered for further diagnostic testing including repeat cerebral angiography.⁷ Based on literature, eight days after the initial cerebral angiography, a second angiography was done and demonstrated a suspicious aneurysm and vasospasm; therefore a third angiography was performed and was found normal. Despite the radiological imaging techniques, we could not determine the cause of the hemorrhage.

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