

Cerebral Cavernous Malformation Activated By Elevated Vascular Endothelial Growth Factor in Placenta, Gestational Diabetes Mellitus, and Hepatic Hemangioma in a Young Pregnant: A Case Report

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Context: A 29 year old G5P4 (4004) was admitted at 23 weeks and 6 days age of gestation due to left-sided hemiparesis and slurring of speech. Past history reveals three previous admissions for severe anemia requiring multiple blood transfusions and a fourth admission for ligation of esophageal varices with hepatic hemangioma as the cause of portal hypertension. A multidisciplinary team was assembled to manage the neurologically stable patient who underwent caesarean section with bilateral tubal ligation at 35 weeks age of gestation. Magnetic resonance angiography revealed a cavernoma.

Objective:

- 1.) To discuss Cerebral Cavernous Malformation, a disease which is still rarely encountered and reported in pregnancy;
- 2.) To explore diagnostic plans and management strategy to this case which is more difficult and complex due to the co-existence of Hepatic Hemangioma and Diabetes Mellitus;
- 3.) To propose a possible syndrome involving a pregnant patient with Cerebral Cavernous Malformation, Gestational Diabetes Mellitus, and Hepatic Hemangioma, which may all co-exist, possibly due to an increase in Vascular Endothelial Growth Factor.

Methods: Review of literature shows that cavernous malformation is rare affecting 0.47% of individuals and increased risk of hemorrhage from cavernous malformation and risk of hemangioma rupture during pregnancy is possibly due to an increase in Vascular Endothelial Growth Factor (VEGF) during placental development. VEGF has also been found to be increased in in Diabetes Mellitus.

Results: Cavernous malformation is a rare disease with scant data associating it with pregnancy. Current literature has not reported its occurrence with hepatic hemangioma in a single patient and no data has linked it with Diabetes Mellitus. Currently, there are still no management guidelines regarding cavernous malformation in pregnancy.

This result could introduce a new syndrome, a separate category of diseases that manifest with increased VEGF, which are triggered by pregnancy.

Conclusion: Increased levels of VEGF in pregnancy may predispose to developing vascular anomalies such as cavernous malformation but is still rarely encountered in pregnancy. It's occurrence with another vascular malformation, hepatic hemangioma and Diabetes Mellitus where VEGF levels are also increased opens the door for analytical research in this rare clinical presentation.