Title: Extracranial-intracranial cerebral bypass for aneurysmal rupture in post-partum woman: a case report

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Background: We present the first reported case of intra-extracranial cerebral bypass to treat a giant sylvian aneurysm rupture in a case of a post-partum woman. This lesion was not amenable to classic coiling/clipping and required a more complex surgical strategy.
Case report: A 33-year-old woman with 35 weeks of pregnancy presented seizures and loss of consciousness at home with a Glasgow Coma Scale at 3/15. She was sedated and intubated, then transported to hospital by emergency unit. CT studies revealed subarachnoid hemorrhage Fischer IV due to a left Sylvian aneurysm rupture (21mm) causing transtentorial engagement and engagement of the cerebellar tonsils in the Foramen Magnum. Emergency C section was done then external ventricular drainage was placed. The shape of the aneurysm was not amenable to endovascular procedure. The cerebral bypass surgery procedure consisted in a temporal-sylvian artery bypass. Clipping and securing of the giant left sylvian aneurysm was processed. Osmotherapy along with controlled hypothermia were used to control intracranial pressure. Extracorporeal life support was placed for cardiogenic shock the day after cerebral bypass surgery. The patient died due to multiple organ failure.
Discussion: Complex aneurysms which cannot be treated by endovascular means or classic clipping, could be treated by Extra-Intracranial or Intra-Intracranial cerebral bypass prior clipping. (1) (2) This is the first reported ruptured cerebral aneurysm treated by cerebral bypass and clipping in a post-partum woman. The rarity of data about these procedures and outcomes in pregnant patients makes management of aneurysms uncertain. The treatment strategy for ruptured aneurysms and timing of delivery remains controversial. (3). It is necessary to compose a therapeutic strategy with the little current and expected data.
Conclusion: Ruptured cerebral aneurysm in pregnant woman is rare yielding the management difficult. Complex cerebral aneurysm, not treatable by coiling, could be treated by cerebral bypass surgery prior clipping. However, large series of cases would be required to prove safety and efficacy of these surgical strategy.

References:

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