Safety of surgery in pregnancy-related hemorrhagic strokes : A single-center experience of 20 years

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Introduction

Hemorrhagic stroke during pregnancy can cause serious problems to mother and fetus, but its cerebrovascular causes have not been understood. The authors report a single-center experience of 20 years of surgical safety in pregnancy-related hemorrhagic strokes.

Materials and Methods

- ✓ Retrospective review of patient data
 - Reasons of hemorrhage, gestational age, methods of delivery
- ✓ Between January 1996 and June 2016
- ✓ Hemorrhagic stroke patients treated surgically in pregnancy and delivery in a single institution
- ✓ Exclusion - Hemorrhagic stroke patients treated conservatively
- ✓ Outcome – mRS at discharge

Results

- ✓ Consecutive 11 hemorrhagic stroke patients related to pregnancy treated surgically
- ✓ Mean age 28.5 yrs, range from 23 ~ 37

Cause of hemorrhage

Cerebrovascular disease in 8 patients

Mean gestational age and hemorrhage

Surgical treatment of hemorrhagic stroke

CVD-related hemorrhage (n=8)		Other hemorrhage (n=3)	
Surgical removal of AVM, aneurysm, CM	7	ICH catheter	2
EVD in moyamoya	1	EVD	1

- ✓ Poor outcome (mRS ≥ 3): 27%
- ✓ Mortality rate 9%
- ✓ Mean mRS at discharge : 1.3
- ✓ Fetal outcome : all good except 1 therapeutic abortion

Conclusions

- ✓ Preexisting CVDs are main causes of pregnancy-related hemorrhagic strokes, but their surgical results are excellent like non-pregnant patients.
- ✓ CVD-related hemorrhagic stroke often happens in 2nd trimester, whereas other hemorrhagic stroke happens in 3rd trimester.
- ✓ Active investigation and aggressive management of cerebrovascular lesion is necessary for pregnant patients with intracranial hemorrhage.