



## Pregnancy, Ischemic Stroke and Heart Disease: A Rare Clinical Scenario

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Dear Editor

Here, we report a rare and challenging case of acute ischemic stroke in pregnancy with heart disease. A 29-year-old primigravida with period of gestation 33 weeks 2 days reported to emergency with complaints of giddiness, weakness of left side of body and facial deviation for last 6 h. She had undergone balloon mitral valvotomy (BMV) for severe mitral stenosis (MS) during second trimester of pregnancy. On examination, she was conscious, pulse 80/mt, blood pressure-120/80 mmHg, facial paresis present. She had power grade 0/5 in left upper limb and grade 0/5 in left lower limb with dysarthria. On per abdomen examination, fundal height corresponded to 32 weeks with breech presentation and fetal heart rate, 142/min and regular. Urgent MRI brain revealed right middle cerebral artery (MCA) infarct (Fig. 1). On MR venography, there was no evidence of cerebrovascular thrombosis. ECG showed normal sinus rhythm. Two-dimensional echocardiography showed mild MS, moderate mitral regurgitation, good left ventricular function and no clot. On

ultrasonography, single live fetus with breech presentation corresponding to 31 weeks was present. She was started on heparin, anti-platelet drugs and anti-epileptics. Her neurological, cardiac and fetal status were monitored regularly in intensive care unit. Two doses of betamethasone injection were given 24 h apart. After 2 days, she went into active labor. Emergency cesarean section had to be done. She had one episode of atrial flutter during surgery which was managed by anesthetist and cardiologist. Single live female baby was delivered with birth weight 1.6 kg. There was no evidence of excessive intraoperative bleeding or postpartum hemorrhage. She was discharged after 10 days of admission on oral anticoagulants. She was followed up to 6 months, and her neurological deficit has recovered. Ischemic stroke is rare during pregnancy (incidence 12.2 per 100,000 pregnancies), but when occurs poses a serious threat to the mother and the fetus [1]. Only one case of pregnancy with heart disease and ischemic stroke has been reported [2]. The hypercoagulable state in association with venous stasis may account for thromboembolic complications particularly third trimester and the puerperium [1]. Heart disease (especially mitral stenosis) is one of the medical conditions linked to ischemic stroke in pregnancy. Anticoagulation is recommended only if there is atrial fibrillation or prior history of any embolic incidence. There is no recommendation of anticoagulation after BMV [2]. The mortality following pregnancy related stroke is around 2–20%. [1]. Mild to moderate neurological deficit is seen in 50% of the patients. Fetal mortality has been reported to be around 12% [3]. Whenever stroke is suspected in a pregnant woman, the stroke protocol should be activated immediately as it a time-dependent treatment. For diagnosis, MRI is the preferred choice of imaging. If MRI is not available, low-radiation dose CT scan is a valid alternative. Additionally, a lead apron can be used to minimize the fetal irradiation risk [4]. According to recent AHA/ASA guidelines, the use of alteplase (rt-PA) seems to be relatively safe during pregnancy and can be considered in acute stroke cases with moderate to severe deficits [4]. There are case reports of successful use of intravenous rt-PA in pregnant women. Rt-tPA does not cross the placenta due to its large

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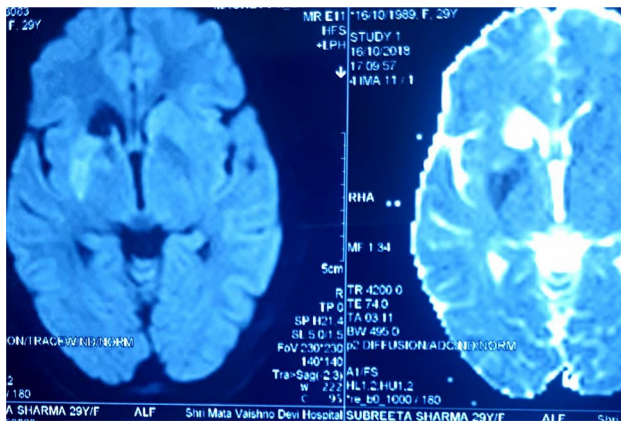
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**Fig. 1** MRI brain showing acute right middle cerebral artery territory infarct

molecular size and has not been found to be teratogenic in animal models. In our case, thrombolysis was not performed and conservative approach was followed due to already established infarct. As stroke in pregnancy extends beyond

the scope of the clinical trials, individualized management of each case has to be done with multidisciplinary approach to reduce the maternal and fetal morbidity and mortality.

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