

## Stroke in Pregnancy: A Rare Case with Positive Outcome

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### Abstract

Stroke or cerebrovascular thrombosis is a rare event in young and the risk in pregnancy is only slightly higher than the non pregnant population. Here we present a case report of a 35 years old female who presented to us with 9 months pregnancy with history of cerebrovascular accident at 7 months of gestation. With conservative approach and close monitoring, we saw a positive outcome for both the mother and the baby.

**Keywords:** Stroke; Cerebrovascular Thrombosis; Pregnancy.

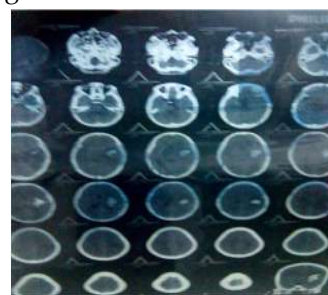
### Introduction

Stroke in pregnancy is not a common event and the risk as compared to the non pregnant population is slightly higher because pregnancy is a pro thrombotic event. The incidence of stroke in pregnancy is found to be 10-20 per 100,000 deliveries in the western world [1]. This risk is especially more 2 days prior and 1 day post delivery [2]. The incidence of this condition is variable throughout the world. Also, studies conducted in the UK showed that one of the leading causes of maternal mortality was thromboembolism [3]. Thus, it becomes very important for us to manage these patients timely. The cause of stroke in pregnancy has been attributed to increasing incidence of obesity, heart disease and cardiovascular disease in

women of child bearing age. The stroke risk based on population studies was found to be 21.2 to 46.2 per 100,000 in the US. In the years 2000-2001, the rate for mortality among pregnant women due to stroke was calculated to be 1.4 per 100,000 [4]. The risk of stroke is also high in puerperium, so regular follow up is an essential part of management in these patients.

### Case Report

A 35 years old female who was gravid 7, Para 6, live 5 (G7P6L5) was admitted in our labour room with the chief complaints of pain lower abdomen since 1 day. Patient was amenorrhoeic since 9 months. She was a regular follow up in our hospital since her 6 months of gestation. Her previous obstetric history was uneventful. Last child was 2 years and 6 months old and all were normal and spontaneous vaginal deliveries. She was not sure of her dates so her period of gestation by her 24 weeks scan was 37 weeks. Past history of cerebrovascular thrombosis was present at 6 months gestation. She was hospitalized and managed conservatively for stroke. She was known hypertensive since 1 year and was on irregular medication. The investigations were as follows:-



**Fig. 1:** MRI Brain showing a well defined T2 hetero intense collection noted in left ganglio capsular region and adjoining white matter

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**Table 1:** Investigations

S. No.	Investigation	Results
1.	Haemoglobin	10.2gm%
2.	Platelets	170,000
3.	TLC	8100
4.	HbsAg, VDRL	NR
5.	Coagulation Profile	PT 14.3sec, aPTT 30 sec, INR 1.08
6.	KFT	Urea 10mg/dl , Creatinine 0.7mg/dl
7.	LFT	WNL
8.	Echocardiography	Structurally normal heart, good LV function
9.	MRI Brain	Sub acute hematoma in left ganglio capsular region with mass effect.
10.	USG Obs	Single live intrauterine fetus, placenta anterior body, liquor adequate, FHS 156 bpm, no gross fetal anomaly seen.

She was subsequently discharged from neurology ward and was on regular follow up. On examination in labour room; patient was conscious and oriented. Pulse rate was 80 beats per minute, BP was 140/90 mmHg and on per abdomen examination: uterus was term size, irritable with cephalic presentation and FHR of 130 bpm. On per vagina examination: os was 2.5cms dilated, 50% effaced, station -2, pelvis adequate. Patient had a normal vaginal delivery the following day with a single live male baby of 1.675 Kg. No postpartum complications were encountered. Patient was then discharged after 1 week on anti hypertensive and since then, she is on regular follow up.

## Discussion

Arterial ischaemic strokes seem to have an increased incidence in pregnancy. Angiography can be performed for the diagnosis of this condition whenever necessary. The management includes use of aspirin (low dose) 60-80mg/dl and it should be continued 3 months post delivery. Also, during pregnancy anti-coagulants can be used. Normal delivery is generally recommended and there is no indication for caesarean section [5].

Scott CA et al [6] conducted a study from October 2007 to March 2010 to evaluate the factors that can lead to stroke during the antenatal period. It was a population based and nested case control study. The mortality rate for these patients were 0.3 per 100,000 women who delivered and the main factors causing stroke included patients with history of migraine, gestational diabetes mellitus and pre eclampsia or eclampsia.

Martin JN Je et al [7] studied stroke in pregnancy in 28 patients who either presented with pre eclampsia and eclampsia. Out of the 28 patients, 12 patients were antenatal and 16 patients were postnatal. The entire case history of these patients

was reviewed and pre and post delivery blood pressures were recorded. They found that an increase in systolic blood pressure was more severe as compared to diastolic blood pressure before stroke occurred. Thus, a paradigm shift should be considered in starting antihypertensive medication in patients with severely increased systolic blood pressures.

The management of these patients is based on individual assessment and workup. No particular guidelines have been recommended for the same [8].

Khan M et al [9] also published a study conducted on the Asian population for stroke in pregnancy. A retrospective study involving 110 patients was done from 5 countries of Asian origin. The average age for patients suffering from stroke was 27.94 years. The rate of postpartum stroke (58.2%) was more than antepartum. Out of these, 49.1% patients developed stroke because of cerebral venous thrombosis which was a more common event as compared to arterial strokes especially in the postpartum period.

Lamy C et al [10] conducted an observational study on 489 women belonging to the age group of 15 to 40 years. The risk assessment of stroke in subsequent pregnancies was noted. Data was collected from 441 women and they were observed over a period of 5 years. After one year, the recurrence risk was 1% and after 5 years the risk was 2.3%. This showed that the risk of recurrence is less in young women for stroke in pregnancy.

In our case report, the cause of stroke was hypertension and on conservative management a positive outcome was seen for both the mother and the baby.

## Conclusion

Stroke occurring in pregnancy is a rare phenomenon. A definitive diagnosis can be made with the help of neuro imaging studies. A prompt

approach towards the patients can have a positive outcome for both the mother and her baby. Regular follow up is again an integral part of management in these patients.

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