

Post Partum Ischemic Stroke

About a Case

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Abstract:- Stroke is one of the most dangerous complications of the postpartum period because this phase is marked by physiological changes in the maternal body that are associated with vascular thrombosis. We report the study of a case of CVA at D12 postpartum of an eutocal vaginal delivery in a patient with no pathological history. The diagnosis was done through clinical and imaging data (MRI). The treatment was based on heparin infusion at a hypocoagulant dose, followed by anti-vitamin K. The main objective of this work is to shed light on a rare but potentially serious and even fatal event due to biological changes in the maternal organism during the gravid-puerperal state.

Keywords:- Ischemic Stroke, Pregnancy, Hemiplegia, The Postpartum.

I. INTRODUCTION

During pregnancy, the risk of stroke is not really increased; however, it is increased more than 12-fold during the postpartum period. This risk increase includes infarction, hemorrhage, and venous thrombosis (TableauI). The main risk factors are the causes of CI in the young subject, other causes are more specific to pregnancy: eclampsia, benign postpartum angiopathy, and cerebral venous thrombosis. This can be explained by the increase in cardiac output and changes in blood vessels.

	RR IC + TVC	RR HIC	RR AVC
Grossesse et post-partum	1,6 (1,0-2,7)	5,6 (3,0-10,5)	2,4 (1,6-3,6)
Grossesse	0,7 (0,3-1,6)	2,5 (1,0-6,4)	1,1 (0,6-2,0)
Post-partum	8,7 (4,6-16,7)	28,3 (13-61,4)	12,7 (7,8-20,7)

Tableau 1: Relative risk of stroke during pregnancy and postpartum (1)

II. OBSERVATION

A 35-year-old primiparous woman, without any particular history, who gave birth by vaginal delivery without dystocia or other complications of a well-monitored pregnancy. At 12 days postpartum, she suddenly presented with right hemiplegia, right facial paralysis, dysarthria and slurred speech in a context of uncalculated fever and chills. The NIHSS score was 10. No personal or family history or trauma was found on examination. A cerebral CT scan came back normal. The MRI revealed a signal abnormality

in the territory of the right basilar artery (Figure 1) in favor of an ischemic stroke of the brainstem and cerebellum (Figure 2). The ECG showed a regular sinus rhythm at 100bpm, PR at 0.16sec and a fine QRS without secondary repolarization disorder; however, the TTE revealed a medium-tight mitral stenosis with moderate mitral and aortic insufficiency. The hemostasis workup was marked by a fibrinogen level of 6.07 and a significant Ddimere level. The thrombophilic workup with rheumatoid factor was negative. And the infectious workup found a positive CRP at 175. The patient was treated with curative doses of anticoagulant and antibiotic therapy. With a good clinical and biological evolution.

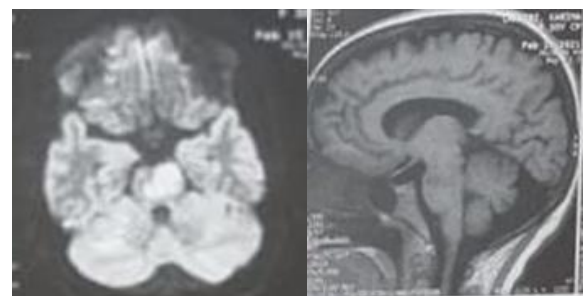


Figure 1= sub tentorial signal anomaly in the right cerebellum and brainstem showing lesions in T1 hyposignal areas

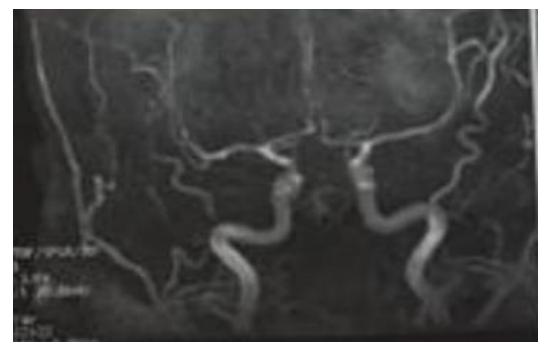


Figure 2: angiographic sequence: segmental amputation before the bifurcation of the basilar artery indicating its occlusion

III. DISCUSSION

A recent systematic review and meta-analysis have shown that stroke affects 30 women per 100 000 pregnancies (2), which is approximately 3 times higher than general young adult population (3). The incidence in our country is difficult to specify because of the absence of a national registry correlating stroke with postpartum. Besides

the classical vascular risk factors, some authors have described risk factors more or less specific to pregnancy: maternal age over 35 years, black race, arterial hypertension, pre-existing or gestational, pre-eclampsia, post-partum complications (hemorrhages and infections), transfusions, hydro-electrolytic disorders, delivery by caesarean section, occurrence of migraine during pregnancy (4). Regarding the period of onset, current data suggest that the cerebrovascular risk is not significantly increased during pregnancy itself. On the other hand, the postpartum period is associated with an increased risk of stroke, whether infarction, hemorrhage or CVT (5). The Swedish population-based study by H. Salonen Ros et al (6) found a maximum risk in the peripartum period (from the last 2 days of pregnancy to the first day postpartum). The period considered for the postpartum in studies is generally 6 weeks after delivery. However, it is possible that the risk of thromboembolic complications may persist longer, with complete normalization of coagulation occurring in approximately 3 months (7). The mode of onset may be acute in 28% or subacute in 45% or even chronic in 25% (8). The clinical symptomatology associates focal deficit signs, epileptic seizures and headaches, whereas consciousness disorders appear when there is intracranial hypertension (8). The etiological workup is often negative, as was the case for our patient. Nevertheless, a better knowledge of coagulation changes during pregnancy and postpartum will lead to a better understanding of the physiopathology of cerebral venous thrombosis (12). Further investigations are essential in the search for an etiology, especially when these cerebral venous thromboses occur during pregnancy because several aspects of pregnancy may increase the risk of postpartum stroke, including: pregnancy-related blood pressure disorders (gestational hypertension, pre-eclampsia with or without chronic hypertension, eclampsia, HELLP syndrome) and their complications: hematologic and prothrombotic changes (9), especially in the third trimester and postpartum period; hyperemesis resulting in hemoconcentration; and changes in cerebral vasculature and growth of preexisting arteriovenous malformations (10). Pregnancy and postpartum are also known factors of thrombophilia, with a maximum risk of thrombosis in the postpartum period. A good assessment of this risk is essential for the possible introduction of the most appropriate anticoagulant treatment. It is currently recognized that patients with a history of thrombosis should receive anticoagulant prophylaxis. Anticoagulants such as anti-vitamin K pass the placental barrier, with a known deleterious effect on the embryo, and their indication is therefore restricted. Heparin, in any form, does not cross the placenta and is therefore the anticoagulant treatment of choice in pregnancy and postpartum (11). The etiologic investigation should look for other causes specific to pregnancy such as postpartum cardiomyopathy, paradoxical embolism, or choriocarcinoma. At a distance from the pregnancy, a hemostasis check-up to look for thrombophilia is recommended (8).

IV. CONCLUSION

Strokes seem to occur preferentially during the postpartum period and not during pregnancy. The absence of the usual etiology of stroke suggests that the pregnant state alone may constitute a risk situation.

Declaration of competing interest

The authors report no declarations of interest.

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None

Ethical approval

I declare on my honor that the ethical approval has been exempted by my establishment.

Consent

Written informed consent for publication of their clinical details and /or clinical images was from the patient.

Author contribution

Hanafi Asmaa: Corresponding author writing the paper.

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