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Case Report

Successful Pregnancy After Previous Cerebral Venous Thrombosis- A Case Report

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Abstract

We present this case as a relatively rare condition, with low quality of direct evidence to guide its care, to add to the evidence and illustrates the management and outcome of pregnancy after a previous CVT in a case with negative Thrombophilia. We presented the initial reasonable uncertainty we had which shaped the counselling we offered after her index pregnancy, which we believe could be the case in other health settings in other countries as with any relatively rare disease. The previous traumatic pregnancy experience and how it was addressed is another important part of her care that we highlighted.

Introduction

Pregnancy and puerperium are associated with an increased risk of venous thrombotic events (VTEs), including cerebral venous thrombosis (CVT). Patients with previous VTE are at increased risk of further venous thrombotic events compared with healthy individuals. Similarly, women with a history of VTE appears to have an increased risk of thrombotic events in future pregnancies (1, 2). This has questioned the Safety of Pregnancy in woman with previous Cerebral Venous Thrombosis as regards to the risk of recurrence and pregnancy outcome. We present this case of a 31-year-old female with successful pregnancy after CVT in her previous pregnancy, which we will briefly mention the important items in her index pregnancy. We will report her management and straight forward follow up throughout her last pregnancy and puerperium despite the doubts that we initially had. Furthermore, this case will highlight the importance of psychological support throughout the pregnancy after her previous traumatic pregnancy experience.

Case presentation

A 31 –year-old para 4 Egyptian woman with successful pregnancy after previous CVT.

Her index pregnancy was complicated by a cerebral venous sinus thrombosis at 15 weeks of pregnancy, she presented to the emergency department many times with worsening headache, which did not raise suspicion initially as it was early second trimester with no focal neurological symptoms and no other risk factors (ex. History of thrombosis, vomiting, recent infection, surgery).

However with persistent worsening headache she started to develop photophobia, blurred vision and diplopia. At that time some suspicion had arisen for which multiplaner multisequential unenhanced brain MRI with MRA and MRV was done which revealed thrombosis of the superior sagittal sinus, right transverse and sigmoid sinuses as well as proximal straight sinus thrombosis. All her lab assays (CBC, liver and kidney functions, CRP, urine protein and coagulation profile) came normal. Time from symptom initiation to hospital admission was 3 days.

With input from the MDT, She was treated with IV therapeutic dose of heparin (UFH) then shifted to therapeutic subcutaneous low molecular weight heparin (LMWH). Gradual improvement in her symptoms till complete recovery which was evidenced by recanalization of the dural sinuses on MRV. She had close follow up of her pregnancy which went smooth thereafter, a part from developing GDM which was controlled with insulin. She had elective repeat cesarean section at 38 weeks with alive baby boy, then continued on therapeutic dose of low molecular weight heparin for 6 weeks post-partum. Thrombophilia screen and autoimmune disease screen (ANA) came negative. She received counselling about the increased risk of recurrence in subsequent pregnancies, though she declined starting any method of contraception.

15 months later, she attended as 8 weeks pregnant. The team had that mixture of surprise, suspicion and uncertainty as this was the first time to deal with and care for a high risk pregnant woman with a history of CVT in her previous pregnancy.

Early involvement of neurologist and hematologist was advised. She was started on prophylactic fixed low dose LMWH 40 milligram once daily throughout her pregnancy with close follow up offering not only clinical care but most importantly emotional and psychological support with generous clinic time to answer all her questions and address all her concerns and out of hours direct contact number, in case she had any concern. Her previous traumatic pregnancy experience had shades on this pregnancy, which we as a team realized and tried to take care of. Her family members, especially her husband, were encouraged to play an active role in her support. Pregnancy went uneventful, apart from a recurrent GDM controlled with oral hypoglycemic. A planned repeat elective cesarean section was done at completed 37 weeks with alive healthy baby girl. Post- partum LMWH dose was increased to 60 milligram once daily for 6 weeks.

Discussion

Normal physiologic changes associated with pregnancy combined with pathophysiologic processes unique to pregnancy predispose women to develop venous thrombotic events and stroke. Pregnancy and puerperium are associated with an increased risk of venous thrombotic events (VTEs), including cerebral venous thrombosis (CVT). As compared to the general population ,where the CVT causes about 0.5%–1% of all strokes, the incidence of CVT associated stroke in pregnancy is 2% and its prevalence is about 12/100,000 pregnancies(3). Patients with previous VTE are at increased risk of further venous thrombotic events compared with healthy individuals. Similarly, women with a history of VTE (including CVT) appears to have an increased risk of thrombotic events in future pregnancies (1, 2).A systematic review of observational studies reporting 217 pregnancies found a low absolute risk of pregnancy related venous thrombosis (9 CVT and 27 non-cerebral VTE per 1000 pregnancies) but a significantly higher rate of both recurrent CVT and other VTEs compared to the baseline risk described in the general population for pregnant women (relative risk) (4)

Understanding these facts made it very reasonable to question the safety of pregnancy after previous CVT, and to even consider that advising against future pregnancy could be appropriate.

As for other relatively rare diseases, evidence to support decisions in CVT is rather scarce. Yet two of the most important literatures we found that addressed these questions with guidance statements were.

The Scientific Statement for Healthcare Professionals from the American Heart Association/American Stroke Association on the Diagnosis and Management of Cerebral Venous Thrombosis (5). Which stated:

a) It is reasonable to advise women with a history of CVT that future pregnancy is not contraindicated. Further investigations regarding the underlying cause and a formal consultation with a hematologist, maternal fetal specialist is reasonable <level of evidence B>.

b) For women with a history of CVT, prophylaxis with LMWH during future pregnancy and the postpartum period is probably recommended <level of evidence C>.

The Second is The European Stroke Organization guideline for the diagnosis and treatment of cerebral venous thrombosis (6). Which stated:

For all women with prior history of CVT, we suggest to inform on the absolute and relative risks of venous thrombotic events and abortion during subsequent pregnancies and to not contraindicate future pregnancies

based only on the past history of CVT<low quality of evidence>.

We suggest prophylaxis with SC LMWH during pregnancy/puerperium, for pregnant women with previous history of CVT and without contraindication for prophylaxis or indication for anticoagulation in therapeutic dosage< very low quality of evidence>.

We present this case as a relatively rare condition, with low quality of direct evidence to guide its care, to add to the evidence and illustrates the management and outcome of pregnancy after a previous CVT in a case with negative Thrombophilia. We presented the initial reasonable uncertainty we had which shaped the counselling we offered after her index pregnancy, which we believe could be the case in other health setting in other countries as with any relatively rare disease .The previous traumatic pregnancy experience and how it was addressed is another important part of her care that we highlighted.

Conclusion

This case support that, in selected patients after good counselling about possible risks, opting for pregnancy after CVT could be an option with good support and follow up.

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