Posterior Fossa Craniotomy in Pregnant Patients: A Case Report and Review of the Literature

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INTRODUCTION

Posterior fossa neurosurgeries are complicated by the difficult anatomy and delicate structures surrounding that area. The need for extensive preoperative planning is increased during pregnancy due to risk of complications. Positioning during the surgery and anaesthetics used can complicate treatment of posterior fossa lesions.

Early discussion is necessary with consideration of gestational age and severity of the lesion to determine the need for earlier interventions. Following these discussion, patient may also choose to terminate their pregnancy to receive appropriate treatment.

However, there has not been a comprehensive review of these concerns when addressing posterior fossa lesions in pregnancy, Understanding the extent of how this is handle can help inform physicians of the appropriate steps to support these patients.

AIM

This paper aims to discuss the current understanding of posterior fossa procedures during pregnancy.

In addition, we present a case to demonstrate clinical reasoning behind navigating complex neurosurgical pathologies and pregnant patients.

Based on these findings, we suggest the interdisciplinary approach to caring for this patient cohort.

METHODS

LITERATURE REVIEW

A comprehensive review of the literature, using PubMed, was completed for articles discussing the treatment of pregnant patients with a posterior fossa lesion. Case reports, letters to the editor, and retrospective studies were included. Exclusion criteria were meta-analyses and reviews.

Information was gathered regarding the time from diagnosis to treatment and whether this was delayed to allow for delivery. If surgery was completed, we collected information around positioning and anaesthesia approach.

CASE PRESENTATION

This case describes a 35-year-old female with history of von Hippel-Lindau syndrome and previously known cerebellar hemangiomas. It was originally decided to delay stereotactic radiosurgery due to pregnancy; however, the patient began presenting with headaches, nausea, and vomiting.

At 35 weeks gestational age, she underwent a C-section followed by a craniotomy. Postoperatively the patient showed improved dysmetria and was doing well at a four-month follow-up.

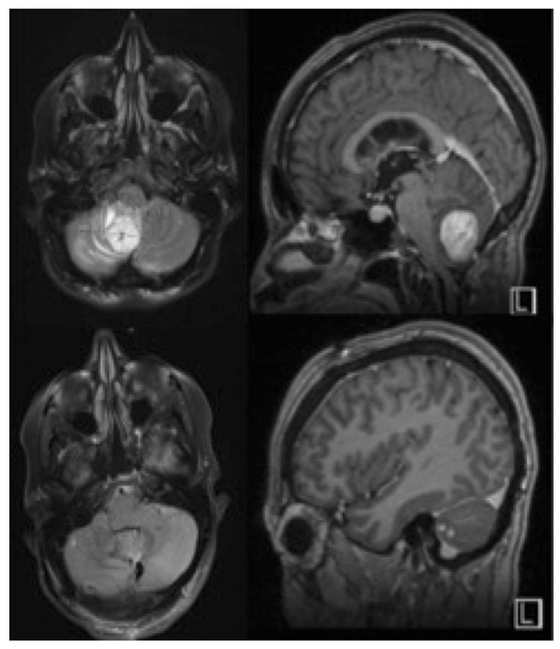

Figure 2: MRI images pre- and post-resection.

RESULTS

REVIEW

26 articles of posterior fossa lesions during pregnancy were found in the literature. Including the reported case, 24 of the patients underwent a neurosurgical procedure, most commonly following a C-section. Most of these surgeries were completed after the 25th week of gestation. Hemangioblastoma was the most commonly identified lesion. Only 14 articles discussed follow-up results.

DISCUSSION

Pregnancy is a complicating factor of neurosurgical procedures. This is especially true in complex cases, such as posterior fossa lesions. Current care for these patients depends upon gestational age, intracranial pressure, and response to nonsurgical management.

Procedures may be complicated by difficulty in positioning and risk for teratogenicity. These patients required increased monitoring and close follow-up postoperatively.

CONCLUSIONS

Due to the increased complexity of procedures in pregnant patients, increased communication between the entire healthcare team and patient is required to improve patient outcome.

This includes coordination between neurosurgeons, neurologists, obstetrics, and neuroanesthesiologists.

Future research is necessary to investigate how this interdisciplinary care impacts overall outcomes and patient satisfaction with care.

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