

## Case Report

# Surgical Management of Tuberculom Sellae Meningioma in a Pregnant Lady: Case Report

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### Abstract

Meningioma has an accelerated growth during pregnancy; this may become symptomatic, which may necessitate surgical treatment.

We describe a 33 year old female pregnant patient who presented with deterioration in vision of the left eye during her 28<sup>th</sup> week of gestation, treated surgically with uneventful recovery.

Vision should be saved anytime during pregnancy, especially in the second trimester when the surgery is relatively safe for both the mother and the fetus.

**Keywords:** Meningioma, pregnancy, tuberculom sellae.

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### Introduction

The occurrence of primary intracranial tumors in pregnancy is an extremely rare event.<sup>1</sup> Tumor growth has been associated with hormonal secretions during pregnancy.<sup>2-5</sup> The presence of estrogen and progesterone receptors in meningioma was claimed to be responsible for its growth during pregnancy, however, recent studies showed that only progesterone receptors were present in significant concentration in meningioma.<sup>6-9</sup>

The association of pregnancy and meningioma makes the management of these patients quite challenging.

We present our case of a 33 years old female patient with progressive deterioration of vision in the left eye during her 28<sup>th</sup> week of gestation, due to a tuberculom sellae meningioma that was treated surgically.

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### **Case report**

33 years old female patient presented in late February 2004 with two months history of deterioration in vision of the left eye till she could hardly see objects in front of her eye, associated with non-specific headaches in the left frontal region.

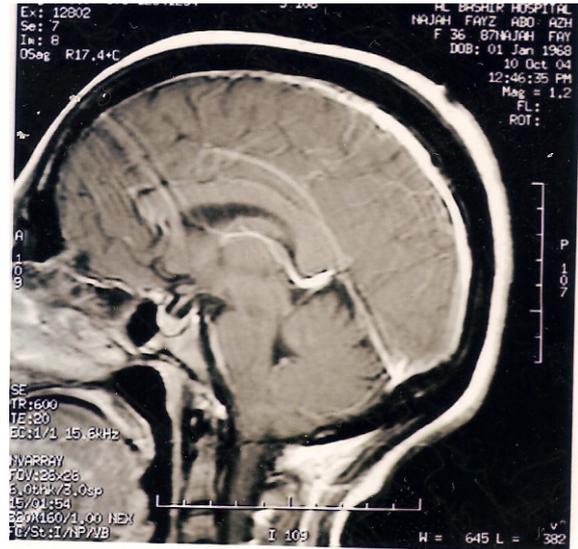
Examination of the eyes showed that the patient was able to count fingers at one meter distance in her left eye, with a severely constricted visual field of the same eye. The patient was gravida 7, Para 5+2, her youngest child was one and a half year old. Abdominal examination showed that the fundal height was at 28 weeks of pregnancy.

Brain Magnetic Resonance Imaging, showed a well defined rounded, two centimeter in diameter, extra-axial soft tissue lesion with broad base close to the tuberculum sella, projecting upward and to the left, compressing on the left optic nerve and chiasma. The lesion appears isointense on T1W images and slightly hyperintense on T2W images. After intravenous gadolinium administration, it enhanced strongly and homogeneously (Figure 1).

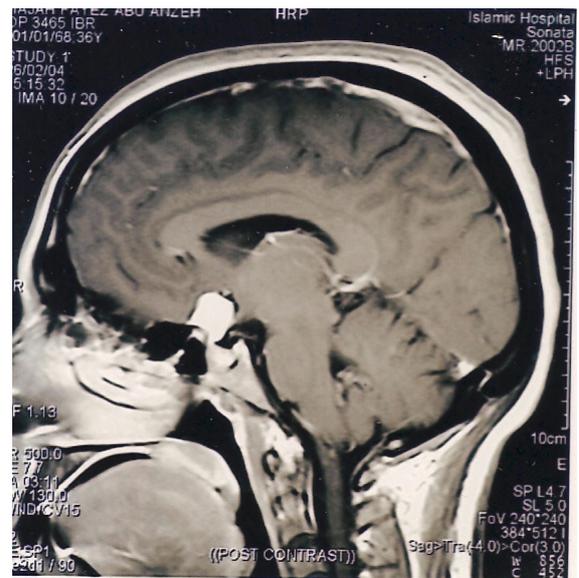
A right frontal craniotomy was performed, and the tumor was resected completely through a sub-frontal approach with uneventful recovery (Figure 2).

The patient's vision has recovered and gave birth to a healthy baby boy at term by a normal vaginal delivery 80 days after the craniotomy.

Histopathologically the tumor was that of meningioma which was positive for progesterone receptors and negative for estrogen receptors.



**Figure 1: Preoperative Magnetic Resonance Imaging of the brain with tuberculum sellae meningioma.**



**Figure 2: Postoperative Magnetic Resonance Imaging of the brain.**

## Discussion

The increase in serum progesterone following pregnancy may increase the rate of growth in meningiomas; <sup>5, 7, 13</sup> add to this the associated increase in blood volume that may worsen a pre-existing intracranial hypertension. <sup>1, 2, 10</sup>

In our case, despite the relatively small size of the tumor (two Centimeters), its location and its growth during pregnancy was significant to compress the left optic nerve and optic chiasma, which led to the deterioration in the vision of the patient, as there was no evidence of increased intracranial pressure.

Surgery is the main therapeutic option for the treatment of meningiomas. Radiotherapy is valuable in inoperable cases or as adjunctive therapy in recurrences or incompletely resected tumors or malignancy. <sup>3, 4, 12, 14</sup> The treatment with cytotoxic chemotherapy and hormone receptor antagonists were not satisfactory. <sup>5, 15</sup>

Management of meningiomas in pregnancy should be individualized in relation to the stage of pregnancy, <sup>16</sup> fitness of the patient for surgery, extent of neurological deficit and tumor extent. Continuous monitoring of the patient and the fetus pre, intra and postoperatively is mandatory. Excessive hyperventilation should be avoided during anesthesia as this will reduce the fetal oxygenation and may impair fetal perfusion by inducing uterine vasoconstriction. <sup>10</sup>

Because of the relative stability of pregnancy during the second trimester and the progressive deterioration in patient vision, we thought that surgery was the most appropriate choice for treating this patient.

Surgical management is an option, even during pregnancy, in patients with deterioration of vision due to meningioma.

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## الجراحة لورم سحائي في الحذبة السرجية في أثناء الحمل: تقرير حالة مرضية

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### الملخص

إن زيادة حجم الأورام السحائية عند الحامل تكون بنسب متفاوتة بسبب تأثرها بهرمون البروجسترون. كانت المريضة الحامل في الشهر السابع ولديها ورم سحائي بحجم 2 سم في الحذبة السرجية، أدى إلى ضعف شديد في الرؤية بالعين اليسرى. أجريت للمريضة عملية جراحية لإزالة الورم الضاغظ على العصب البصري دون حدوث مضاعفات وعادت الرؤية إليها، وأنجبت طفلاً بولادة طبيعية بعد ثمانين يوماً من الإجراء الجراحي.

ينصح بإجراء تداخل جراحي لهذا النوع من الأورام لإنقاذ بصر الأم الحامل وخاصة في الفترة الثانية من الحمل عندما تكون المخاطر الجراحية للحامل و الجنين ضئيلة نسبياً.

الكلمات الدالة: ورم سحائي، حمل، منطقة الحذبة السرجية للحمجمة.