Case Report

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Large Vestibular Schwannoma Presenting in Pregnancy: A Case Report

Farnoosh Moafi[1], Hooshang Saberi[2], Zahra Bajalan[3*]

1- Department of Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran
2- Department of Neurosurgery, Tehran University of Medical Sciences, Tehran, Iran
3-Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

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Corresponding author:
Zahra Bajalan

Email:
z.bajalan64@gmail.com

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ABSTRACT

Vestibular Schwannoma (VS) is a brain tumor arising from the internal auditory canal, growing towards the cerebellopontine angle. Diagnosis and management of these tumors during pregnancy may present a therapeutic challenge. Herein, we report a case, of a huge VS presented in pregnancy by nonspecific symptoms. Thus, despite increased intracranial pressure and its possibly dangerous sequela, the patient delivered full-term vaginally. Finally, three months after delivery, VS underwent retrosigmoid microsurgical removal. The postoperative period was uneventful, with total hearing loss in her left ear and, transient paralysis of the left seventh cranial nerve. Gynecologists and Obstetricians should consider brain tumors in the differential diagnosis of CNS symptoms in the prenatal period, if there are no pregnancy-related etiologies to explain.

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Introduction

Even though Vestibular Schwannomas (VS) rarely present during pregnancy, symptoms may appear or worsen particularly in this period (1). The overall incidence of VS is about one per 100,000 person-years (2).

One reason behind failure to diagnosis or delayed diagnosis of VS during pregnancy is the similarity of its manifestations to pregnancy-related physiological changes and problems (3, 4). Undiagnosed VS may be diagnosed only if neurologic manifestations appear. Therefore, definitive diagnosis of VS during pregnancy is a real challenge for gynecologists, obstetricians, neurosurgeons, and anesthesiologists (5). Here, we present a young pregnant woman with a misdiagnosed VS due to the similarity of VS manifestations with prenatal problems and complications. Her VS was finally diagnosed and treated after the aggravation of manifestations in the postnatal period. Differential diagnoses and the used treatments are explained and discussed.

Case Report

The patient was a 27-year-old primigravida woman who was referred in the 36th week of her pregnancy with the chief complaint of vomiting, to the emergency department of Kowsar hospital, Qazvin, Iran. With a primary diagnosis of the fatty liver of pregnancy, different

laboratory tests such as liver and renal function tests, complete blood count (CBC), and urinalysis were performed. The results of all tests were normal. Finally, the patient was discharged with a metoclopramide prescription. In the 40th week of her pregnancy, she referred to Kowsar hospital with labor pain. Physical examination and medical history revealed no abnormal finding. She was hospitalized for vaginal delivery. The delivery was successful and uncomplicated and a healthy child with a five- and a ten-minute Apgar score of respectively 9 and 10 was born. Immediately after the delivery, the woman experienced frequent vomiting, dizziness, and tachycardia and hence, with a suspected preeclampsia, liver function tests were performed. The results were normal. Moreover, cardiac consultation was requested. Electrocardiogram as well as echocardiographic findings were also normal. Vomiting was managed using metoclopramide; however, dizziness and tachycardia were persistent. The first postnatal CBC revealed hemoglobin of 10.4 gram per deciliter (gm/dL). However, in the second CBC at six hours after the delivery, hemoglobin was 9.2 gm/dL. Therefore, with a suspected vaginal hematoma, vaginal examination and abdominal ultrasonography were performed which yielded normal findings. Thereafter, the diagnosis of anemia was established, ferrous sulfate was prescribed, and the patient discharged.

Three months after delivery, anemia, and tachycardia were rectified with the prescribed ferrous sulfate, while the patient still suffered from dizziness and developed tinnitus. By referring to otolaryngologist, it was discovered that she had been suffering from hearing loss since four years ago. As the patient had used to listen to loud music with headphones, she had attributed her hearing loss to this practice and hence, had avoided seeking medical help. Therefore, a neurosurgeon and an ophthalmologist evaluated the patient clinically. The patient had left facial numbness, hearing loss in the left ear and recent dizziness and tinnitus. Neurologic examination showed left facial weakness (House-Brackmann grade III) and decreased facial sensation on the left side. Ophthalmologic examination revealed bilateral papilledema. Magnetic resonance imaging of the brain was revealed a heterogeneous tumor with smooth contour in the left cerebellopontine angle with brain stem compression (Figures 1, 2). Intracranial vascular structures were normal. Based on the results of magnetic resonance imaging, a neurosurgeon established a diagnosis of VS and performed microsurgical removal of the lesion. A tumor with a size of 51*23 millimeters was removed. Pathological studies showed that the tumor was a VS originating from the Schwann cells. Post-operative period was uneventful the patient has lost hearing in her already involved left ear. The transient palsy in the seventh cranial nerve; was managed by referral to the facial physical therapist.

Discussion

With a growth rate of 1.15–2.4 millimeter a year, VS is a slow-growing tumor (6). Clinical manifestations of VS (such as nausea, vomiting, and tinnitus) are similar to the physiologic

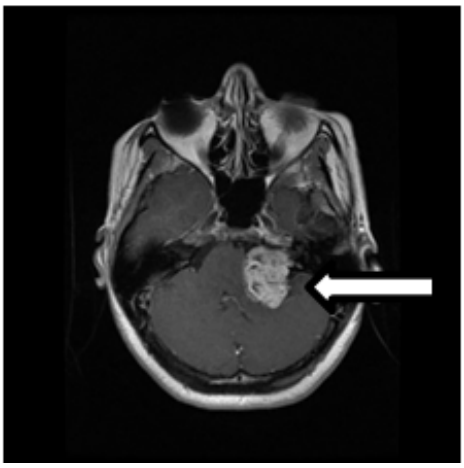

Figure 1. Contrast enhanced MRI brain, coronal section showing large heterogeneous enhancing mass lesion in left cerebellopontine angle and extending into the left internal acoustic meatus.

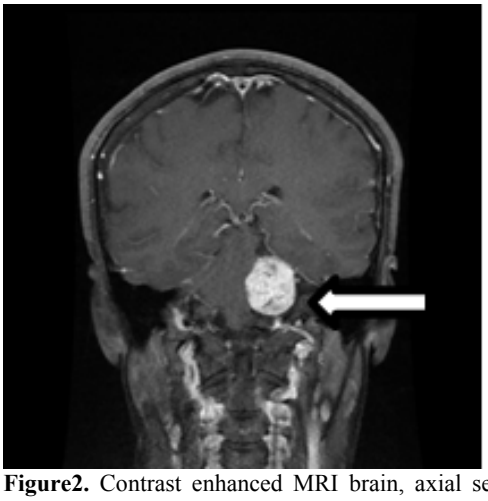

Figure2. Contrast enhanced MRI brain, axial section showing large heterogeneous enhancing mass lesion in left cerebello pontine angle.

changes and problems of pregnancy (7). Prenatal pathologic complications such as pre-eclampsia (manifested by a headache and hypertension), the fatty liver of pregnancy (manifested by persistent nausea and vomiting), and anemia (manifested by dizziness) are among differential diagnoses (7, 8). In the presented patient, the tumor was large and neurologic manifestations of a large tumor were observed. However, the diagnsis has been missed due to inadequate history taking and lack of attention to her persistent hearing loss.

Pinna et al. assessed 825 cases of VS and reported that clinical manifestations are not always proportionate to tumor size (9) and therefore, early diagnosis of VS may be difficult.

Despite a large tumor and frequent vomiting, the patient gave birth to her child via natural vaginal delivery. Attempt for a vaginal delivery with brainstem compression and uncontrolled high intracranial pressure can be catastrophic because it should be done only when intracranial pressure is normal and there are no neurologic symptoms (7).

Finally, it could not be overemphasized on the importance of thorough history taking and physical examination, especially during the prenatal period. Also, remembering that even large tumors may be asymptomatic, gynecologists and obstetricians should consider brain tumors as differential diagnoses in case of persistent nausea and vomiting in the prenatal period of pregnancy for which there are no pregnancy-related etiologies. Moreover, complete neurologic and radiologic assessments are needed for refractory one-sided hearing loss.

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Conflict of Interests

Authors have no conflict of interests to declare.

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