Journal of Midwifery & Reproductive Health

JMRH.mums.ac.ir

Favorable Pregnancy Outcomes in a Patient with Takayasu's Arteritis: A Case Report

Sima Kadkhodayan (MD)[1], Leila Pourali (MD)[2]*, Maryam Sahebbari (MD)[3], Elham Motamedi (MD)[4]

[1] Professor, Department of Obstetrics and Gynecology, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
[2] Assistant Professor, Department of Obstetrics and Gynecology, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
[3] Associate Professor, Department of Rheumatology, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
[4] Resident, Department of Obstetrics and Gynecology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

ARTICLE INFO

Article type:
Case report

Article History:
Received: 21-Oct-2015
Accepted:7- May -2016

Key words:
Aorta
Pregnancy complication
Pregnancy outcome
Takayasu's arteritis

ABSTRACT

Background & aim: Takayasu's arteritis is a rare, chronic vasculitis, affecting women of reproductive age. With disease progression, evidence of vascular involvement and insufficiency becomes clinically apparent due to the narrowing or occlusion of the proximal or distal branches of the aorta. Therefore, pregnancy-related complications, such as superimposed preeclampsia, renal failure, and congestive heart failure, may be encountered in these patients.

Case report: In this report, we present the case of a 23-year-old, Iranian, primigravida woman with a prior history of Takayasu's arteritis, which was diagnosed two years before her pregnancy. The patient's primary presentations were thrombocytosis (more than one million per milliliter), weight loss, and weakness in the shoulders and arms, appearing two years before her pregnancy. Following spontaneous pregnancy, the patient received regular perinatal care by a medical team, consisting of an obstetrician, a rheumatologist, a radiologist, and a nephrologist. Pregnancy termination was planned due to the preterm premature rupture of membranes (PPROM) at 36 weeks of gestation. A normal live male neonate (weight= 3100 g) was born with a normal Apgar score (8-8).

Conclusion: Based on the findings, a multidisciplinary collaboration between rheumatologists, nephrologists, and obstetricians is required to achieve optimal maternal and neonatal outcomes.

► *Please cite this paper as*:
Kadkhodayan S, Pourali L, Sahebbari M, Motamedi E. Favorable Pregnancy Outcomes in a Patient with Takayasu's Arteritis: A Case Report. Journal of Midwifery and Reproductive Health. 2016; 4(4):788-790. DOI: 10.22038/jmrh.2016.7232

Introduction

Takayasu's arteritis (TA) is a rare, chronic vasculitis of an unknown etiology, affecting women of reproductive age (1). TA is known to primarily affect the aorta and its branches (2). Inflammation may be localized to a section of the thoracic or abdominal aorta and its branches or involve the entire vessel. Considerable variability has been reported in disease expression, which may be due to geographical differences (3).

In TA, the inflammatory process increases the thickness of the affected artery walls. The proximal aorta may become dilated secondary to an inflammatory injury. Occlusion, narrowing, or dilation of the involved portion of the arteries may result in a wide range of symptoms with varying severities. Systemic symptoms, including fatigue, weight loss, and low-grade fever, which may represent the systemic effects of cytokines, are common in the early phase of TA (4).

Diagnosis of TA is based on the clinical features and imaging of the arterial tree of the chest, abdomen, head, neck, or other areas via magnetic resonance imaging (MRI), computed tomography (CT), and/or angiography (5, 6). Maternal complications such as superimposed preeclampsia, congestive heart failure (CHF), renal insufficiency, and cerebral hemorrhage have been reported in the literature (7).

Considering the rarity of TA, we decided to present this case, which seems to be the only

* *Corresponding author:* Leila Pourali, Department of Obstetrics and Gynecology, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. Tel: 05138412477; Email: pouralil@mums.ac.ir

report of optimal maternal and perinatal outcomes in a tertiary teaching hospital.

Case report

Herein, we present the case of a 23-year-old, Iranian, primigravida woman, who was referred to Ghaem Hospital, affiliated to Mashhad University of Medical Sciences, Mashhad, Iran on July 9, 2014 at 36 weeks of gestation. The patient had a prior history of TA, which was diagnosed two years before the initiation of her pregnancy.

The primary presentations of TA in this patient included thrombocytosis (1.5 million per milliliter), weight loss, and weakness in the shoulders and arms. Pulse rate and blood pressure were normal in both arms in the first examination; also, heart auscultation revealed no abnormalities. No carotid bruit was heard over the right and left carotid vessels in the first examination.

The erythrocyte sedimentation rate (ESR) was above normal (39 and 56 mm/h in the first and second hours, respectively), whereas C-reactive protein (CRP) test results were found to be normal. The other biochemical parameters were also reported to be within the normal range. CT angiography, which was performed at the time of the patient's first presentation before pregnancy, showed normal thoracic, abdominal, and pelvic pathways of the aorta. The internal and external iliac arteries were normal, as well.

Only mild stenosis of proximal renal arteries was seen on angiography, especially on the right side, whereas no calcified plaque was detected; also, increased thickness was seen in cephalic aortic branches. As a result, color Doppler ultrasonography of the carotid and subclavian arteries was performed, which revealed completely normal results.

Two years before the patient's pregnancy, she had been advised to take 5 mg/day of methylprednisolone for the management of vasculitis. After two years, her condition was stabilized and she was able to become pregnant. The advised treatment with the same dosage continued during her pregnancy. Following spontaneous pregnancy, she received regular perinatal care by a medical team, consisting of a rheumatologist, a gynecologist, a radiologist, and a nephrologist.

The results of all routine laboratory tests (complete blood count, creatinine level, urinalysis, and urine culture) and ultrasonography were normal in the perinatal period. Only ESR was elevated (45 and 60 mm/h in the first and second hours, respectively), whereas CRP test results were negative. The patient's blood pressure was normal in both arms during the perinatal visits.

On July 9, 2014, the patient referred to the center due to membrane rupture. After confirming the premature rupture of membranes (PROM) through speculum examination, pregnancy termination was planned. She did not have any uterine contractions and the cervix was closed, based on the speculum examination.

Fetal heart rate monitoring was normal. On the same day, ultrasonography showed a live fetus with cephalic presentation and moderate hydrocephalus, which was confirmed by another sonologist. Therefore, after consultation with experts, cesarean section was planned for the next day. A normal live male neonate was born on the second day of hospitalization with a normal Apgar score (8-8) and weight of 3100 g.

The day after delivery, brain CT scan was performed for the neonate. Mild dilatation of lateral ventricles was observed. However, no interventions were required, and the mother and her neonate were discharged from the hospital three days after delivery. Upon discharge, maternal vital signs were stable and she was in a completely normal postpartum status.

Discussion

The majority of cases with TA during pregnancy have been reported among patients with a confirmed diagnosis of TA before pregnancy (8-10). Similarly, in the present case, the patient had been diagnosed with TA two years before pregnancy. The main clinical symptoms of TA included weakness and arm claudication; however, the patient's blood pressure was normal.

In many reports, the main symptoms of TA before pregnancy included hypertension, CHF, retinopathy, and even stroke (7). According to the literature, TA during pregnancy may reduce the inflammatory activity, as presented by the lowered CRP level (11). In the current case, TA did not exacerbate and the patient had a stable condition without any complications (e.g., hypertension, CHF, cerebral hemorrhage, or myocardial infarction). Also, no pregnancy-related complications, such as preeclampsia, postpartum hemorrhage, or puerperal fever, were reported.

In this regard, Sharma et al. reported different maternal complications during pregnancy, including hypertension, CHF, progression of renal insufficiency, and superimposed preeclampsia in women with a prior history of TA. These complications might be due to the patients' poor health condition before and during pregnancy (7).

In the literature, full-term vaginal delivery has been recommended for TA patients (12). In a study by Hauenstein et al., which reviewed 137 cases of TA during pregnancy, more than 50% of the subjects had a successful vaginal delivery (1). However, we selected cesarean section due to hydrocephaly in an otherwise healthy near-term fetus with PPROM.

Clearly, if the mother's health status is optimal, we can predict good fetal outcomes. In the present study, the late preterm neonate (born at 36 weeks of gestation) had a normal weight and Apgar score, and he did not require admission to the neonatal intensive care unit. In some reports on TA during pregnancy, poor fetal outcomes, such as intrauterine growth restriction and fetal death, have been reported (7), especially in cases for whom the diagnosis of TA was established during pregnancy.

In the present case, since the diagnosis of TA was confirmed before pregnancy and the patient was in a stable condition receiving precise perinatal care, both maternal and neonatal outcomes were optimal. In conclusion, a multi-disciplinary collaboration between rheuma-tologists, nephrologists, and obstetricians is necessary to achieve optimal maternal and neonatal outcomes.

References

1. Hauenstein E, Frank H, Bauer JS, Schneider KT, Fischer T. Takayasu's arteritis in pregnancy: review of literature and discussion. Journal of Perinatal Medicine. 2010; 38(1):55-62.
2. Goodman R, Dellaripa PF, Miller AL, Loscalzo J. An unusual case of abdominal pain. New England Journal of Medicine. 2014; 370(1):70-75.
3. Cunnigham FG, Leveno KJ, Bloom SL, Spong GY, Dashe JS, Hoffman BL, et al. Williams obstetrics. 24th ed. New York: McGraw Hill; 2014.
4. Shafi NA, Malik A, Silverman DI. Management of Takayasu arteritis during pregnancy. The Journal of Clinical Hypertension. 2009; 11(7):383-385.
5. Kissin EY, Merkel PA. Diagnostic imaging in Takayasu arteritis. Current Opinion in Rheumatology. 2004; 16(1):31-37.
6. Keenan NG, Mason JC, Maceira A, Assomull R, O'Hanlon R, Chan C, et al. Integrated cardiac and vascular assessment in Takayasu arteritis by cardiovascular magnetic resonance. Arthritis & Rheumatism. 2009; 60(11):3501-3509.
7. Sharma BK, Jain S, Vasishta K. Outcome of pregnancy in Takayasu arteritis. International Journal of Cardiology. 2000; 75:S159–S162.
8. Al-Ghamdi AA. Successful pregnancy in a patient with Takayasu's arteritis. Saudi Medical Journal. 2003; 24(11):1250–1253.
9. Jacquemyn Y, Vercauteren M. Pregnancy and Takayasu's arthritis of the pulmonary artery. Journal of Obstetrics and Gynaecology. 2005; 25(1):63–65.
10. Latthe PM, Kilby M, Jobanputra P, Alner M. Pregnancy in Takayasu's arteritis with thrombophilia. Journal of Obstetrics and Gynaecology. 2002; 22(2):228–229.
11. Vitthala S, Misra P. Takayasu's arteritis & pregnancy: a review. Internet Journal of Gynecology & Obstetrics. 2008; 9(2):12.
12. Papantioniou N, Katsoulis I, Papageorgiou I, Antsaklis A. Takayasu arteritis in pregnancy: safe management options in antenatal care. Fetal Diagnosis and Therapy. 2007; 22(6):449–451.