Successful Maternal and Fetal Outcome in a Pregnancy With Type V Takayasu’s Arteritis

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Abstract

Objective: Takayasu’s Arteritis is a rare idiopathic, chronic inflammatory disease causing intimal proliferation. Preexisting hypertension in pregnant women with Takayasu’s Arteritis may pose risks for both the mother and the fetus. The aim of this study is to report a pregnant woman with Type V Takayasu’s Arteritis and pregnancy outcomes.

Case: The 34-year-old woman with the diagnosis of Takayasu’s Arteritis for 6 years had stopped her Takayasu’s Arteritis medications without having asked her doctor at the time she learned of her pregnancy. After an uncontrolled pregnancy, when she presented to our clinic without any antenatal followup, no complications of pregnancy were determined in her first examination. After vaginal delivery she was discharged on the second postpartum day with no maternal or fetal complications.

Conclusion: Although there was no problem due to Takayasu’s Arteritis in our patient and she experienced a pregnancy without any problems, pregnant women with Takayasu’s Arteritis should be regarded and followed up as high risk pregnancies due to the risk of hypertension.

Keywords: Takayasu’s arteritis, pregnancy.

Tip V Takayasu Arteritli bir gebelikte başarılı maternal ve fetal Sonuç


Sonuç: Olgumuzda Takayasu Arteritine bağlı bir problem olmasına ve sorunsuz bir gebelik geçirmiş olması rağmen, Takayasu arteriti hastası olan gebeler hipertansiyon riski nedeniyle yüksek riskli gebelik olarak kabul edilmeli ve takipleri buna uygun yapılmalıdır.

Anahtar Sözcüklər: Takayasu arteriti, gebelik.

Introduction

Takayasu’s Arteritis (TA) is a rare, idiopathic chronic inflammatory disease causing intimal proliferation.¹ Its annual incidence is 2.6/million new cases and the prevalence is 2.6-6.4/million.² The disease affects women more commonly than men and the mean age at which the disease appears is in the second decade. Its etiology is still not clearly understood.³ It is a rare polyarteritis characterized by fibrosis in the renal and pulmonary arteries, more commonly affecting the branches of the aortic arch.³ The
symptoms and signs appear as a consequence of obliterative vascular changes. Coldness and pain in the upper extremities, claudication in the lower extremities due to narrowing of the iliac artery, and intraabdominal and cerebral ischemia due to disease involvement of the mesenteric and cervical arteries may occur. Retinopathy may cause visual loss. High blood pressure levels are present in 33-50% of patients with TA and this hypertension especially occurs in patients with renal artery involvement and stenosis. Preexisting hypertension in pregnant women with TA may pose risks for the mother and the fetus. Herein we report a pregnant woman with Type V TA and the consequences of pregnancy.

Case

Takayasu’s Arteritis (TA) that had been present for 6 years was determined in the history of a 34-year-old woman with gravida 3 and parity 2, who had presented to our clinic due to the commencing of uterine contractions at the 39+3 weeks’ gestation of her pregnancy according to her last menstruation date. The patient was poorly compliant with her medication and had stopped taking her drugs that had been prescribed for TA (Prednisolone 15 mg/day, Pentoxyphillin 400 mg/day, Acetylsalicylic acid 100 mg/day) at the sixth week of her pregnancy without having informed any doctor. She had not been to any medical facility for the antenatal follow-up.

On her physical examination, blood pressure could not be measured on either of the upper extremities. The radial pulse could not be obtained bilaterally on either of the upper extremities, while the brachial arterial pulses were palpated as weak. On her bilaterally lower extremity arteries, the arteria femoralis, tibialis posterior and dorsalis pedis, pulses were palpated weak.

On the obstetric examination, the cervical opening was 5 cm, effacement 60%, the fetus was on vertex presentation, the level was -2. On the contraction stress test, she had regular contractions as high as 70-80 mmHg and the test was negative. On ultrasonographic examination, there was a fetus consistent with 38-39 weeks of gestational age, with head presentation and estimated weight of 3230 grams. The amniotic index was 165 mm. On Doppler examination, the umbilical artery Systole/Diastole ratio was determined as 2.22. On laboratory evaluations, complete urine analysis, complete blood count, biochemical tests including liver function tests and coagulation parameters were all found to be normal.

The angiography of thoracoabdominal aorta and its branches performed about 1 year ago had shown widespread and severe stenosis. The graphy had shown stenosis in the truncus brachiocephalicus (1), bilaterally subclavian arteries (2,5), right a.carotis interna (3), left a.carotis interna (4), bilaterally upper extremity arteries (arrows). The graphies had shown also generalized stenosis and contour irregularities on the descending thoracic aorta and in the area of the infrarenal abdominal aorta, especially involved bilateral renal arteries and superior mesenteric artery, stenotic aortic bifurcation and common iliac arteries (6) (Figure 1). According to these physical examination and angiographic findings the patient was determined as Type V TA.

The patient’s status underwent the consultations of the cardiology, cardiovascular surgery, internal medicine and rheumatology clinics, and no contraindications for vaginal birth were determined through a multidisciplinary approach. After 4 hours of active labor, a 3100 g. girl baby with an Apgar score of 7/9 was delivered through vaginal birth. No peripartum maternal or fetal complications developed. No anomaly was detected in the fetus. The patient was discharged on the second postpartum day.
Discussion

Takayasu’s Arteritis, which was first defined by the Japanese ophthalmologist Takayasu, is a chronic inflammatory disease of unknown etiology which affects the aorta and the large branches. Takayasu’s Arteritis has a large distribution with a high incidence, especially in Japan, East and South Asia, and India. Although its etiology still not clearly understood, autoimmunity is accused.

TA is classified into 6 types anatomically and pathologically. Type I involves only the branches of the aortic arch. Type IIa involves the aorta only at its ascending portion and/or at the aortic arch. The branches of the aortic arch may be involved as well. The rest of the aorta is not affected. Type IIb affects the descending thoracic aorta with or without involvement of the ascending aorta or the aortic arch with its branches. The abdominal aorta is not involved. Type III is concomitant involvement of the descending thoracic aorta, the abdominal aorta, and/or the renal arteries. The ascending aorta and the aortic arch and its branches are not involved. Type IV involves only the abdominal aorta and/or the renal arteries. Type V is a generalized type, with combined features of the other types.

Our patient was classified as Type V, due to physical examination and angiography findings of widespread contour irregularities on the arcus aorta, descending thoracic aorta and abdominal aorta, in addition to diffuse involvement of the renal artery, superior mesenteric artery and iliac arteries bilaterally (Figure 1).

The clinical patterns of TA differ at the acute and chronic periods. In the acute period, systemic symptoms prevail, while in the chronic period, insidious ischemic-destructive signs are more prevalent. These signs appear together with stenosis at a rate of 85%, dilatation at a rate of 2%, and stenosis and dilatation at a rate of 13%.2

Asymmetrically decreased peripheral pressure is determined in most of the patients. In approximately all of the patients, the measured blood pressure difference on symmetrical extremities is found to be higher than 10 mmHg.2,6 The evaluation of hypertension should be carefully performed on patients with TA, because peripheral blood pressure may be determined to be significantly lower than its actual value due to involvement of the aortic arch. Ideally, the central blood pressure should be measured using an aortic transducer.

Preexisting hypertension in pregnant women with TA may pose risks for the mother and the fetus.5,7,8,11 In our patient, however,
peripheral blood pressure could not be measured due to stenosis constituted by arteritis. Nevertheless, an invasive procedure, or a central catheter was not applied to her since the patient gave vaginal birth.

Gasch et al. reported the rate of pregnancy-induced hypertension/preeclampsia as 39% in their study of 137 pregnant women. Furthermore, they stated that although heart failure had developed in 5 of their cases, no maternal deaths had occurred.11

In the evaluation of 115 cases from different centers with regard to the problems in the fetus due to ischemic and destructive reasons, the abortus rate was 15.6%, the premature birth rate was 9.5%, and the intrauterine growth retardation rate was 17%, and neonatal death was reported in only 1 case.3,5,7,8

The rate of caesarean section was 26%. Twenty of the caesarian indications were maternal causes and 17 of these were maternal hypertension/preeclampsia and other vascular diseases.3,5,7,8

There are some case reports on this subject in the Turkish medical literature. In 2 of the case reports, the birth facilitated through caesarean section.12,13 In the first case with high arterial blood pressure values and with the development of a superimposed preeclampsia, the indication of cesarean section was fetal distress,12 while in the second case with normal blood pressure values all throughout her pregnancy, the cesarean indication was not clearly stated and the presence of TA singly was regarded as a maternal medical indication.13

In this case report, the woman did not undergo routine antenatal follow up. When the woman presented to our hospital at the term of her pregnancy, there were no pathological findings on the physical examination except non-palpable arterial pulsations of the peripheral arteries. Although she stopped the medical treatment of TA during her pregnancy, her pregnancy continued till the term and she did not present with any complications of pregnancy.

**Conclusion**

In conclusion, pregnancy per se does not appear to exacerbate the disease, but management of hypertension is essential for a successful maternal and fetal outcome. The pregnant women with TA should be regarded and followed-up as high risk pregnancies due to the risk of hypertension.

**References**