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Case Study

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PREECLAMPSIA AND BLINDNESS SECONDARY TO TAKAYASU'S ARTERITIS IN PREGNANCY: A CASE REPORT

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ABSTRACT

Takayasu's arteritis TA is a rare and chronic inflammatory disease of the large vessels, that affects young women of reproductive age. Pregnancy can increase the complications of Takayasu's arteritis, and is distinguished by the maternel-fetal complications, therefore, a multidisciplinary monitoring is recommended. Currently, no preventive treatment has been validated. The ocular ischemia syndrome secondary to tight stenosis or occlusion of one or both internal carotid arteries is mainly complication represented during pregnancy, which the visual prognosis is put at risk with permanent blindness in young patients previously asymptomatic. The objective of our work is to highlight the importance of strict monitoring of Takayasu's arteritis during pregnancy, by representing a case report of a parturient at 29 weeks of amenorrhea.

KEYWORDS: Takayasu's arteritis, pregnancy, Preeclampsia, ocular ischemic, blindness.

INTRODUCTION

Takayasu's arteritis (TA), also known as "young female arteritis", is a rare granulomatous systemic vasculitis of unknown etiology, mainly involving large and medium caliber vessels, which mainly affects women of reproductive age. During pregnancy, there is an increased risk of cardiovascular such as hypertension and ocular complications, and high risk for maternal and fetal complications.

This disease is characterized by the destruction of the media of the artery wall, leading to the development of arterial stenoses or aneurysms.[2] Early diagnosis and prompt treatment may improve the prognosis. Only a few cases have been reported during pregnancy. There is no consensus on the management of this disease during gestation.

Ocular manifestations are of increasing severity and blindness is inevitable if not managed.

Ocular ischemia syndrome is a serious and exceptional complication of Takayasu's arteritis secondary to tight stenoses of the internal carotid artery, which can lead to progressive and permanent loss of the eye functioning.

There is no validated consensus regarding the management of this disease during gestation.

CASE REPORT

A 24 years old, gravida2, para 2, 1 living child, gravida 1 was by vaginal delivery 3 and half years ago, gravida 2 is the current pregnancy at 29th weeks of gestation and known to have Takayasu's arteritis diagnosed 5 years ago. Referred by her obstetrician for hypertension at 140/90 mmHg associated with orbital pain and major decrease in visual acuity and headache starting a week before her consultation of significant intensity with sensations of heaviness of the right upper limb and tinnitus and harmonious intrauterine growth restriction(IUGR). There was no other significant past, obstetric, or surgical history.

On examination, the patient represented a blood pressure of 140/100 mmHg, the obstetrical examination found a uterine height of 24, an active fetal heartbeat; vaginal examination revealed a long posterior closed cervix. Obstetrical ultrasound showed a progressive monofetal pregnancy, harmonious IUGR with estimated fetal weight of 950 g, associated with oligohydramnios and a normal umbilical Doppler, fundial placenta. The fetal heart rate monitoring was normoreactive normooscillating with proteinuria level at 0.42 g/L.

An ophthalmological examination revealed a visual acuity, measured on the Monoyer scale at 1/10th in the right eye, which could not be improved and a negative

light perception in the left eye. The fundus examination revealed a small arterial network, retinal hemorrhages, the aspect in LE was more important than in RE, the papilla was the site of a papilledema in both eyes, complicated a month after with papillary pallor.

The patient was hospitalized for 2 days in our department, the evolution was marked by high blood pressure figures of 160/110 mmHg, under dual therapy with the observation of an anamnios and a pathological umbilical and cerebral doppler, a decision of an urgent fetal extraction was made. Giving birth to a live baby boy of 900 grams apgar score of 9-10 at first and fifth minutes respectively, who was hospitalized in neonatology department.

The ocular evolution was marked by the appearance of a total asymmetrical cataract in RE. Regrettably, the evolution of the ocular complications were extremely fast for the patient with an unfortunate prognosis. Figure 1, 2.

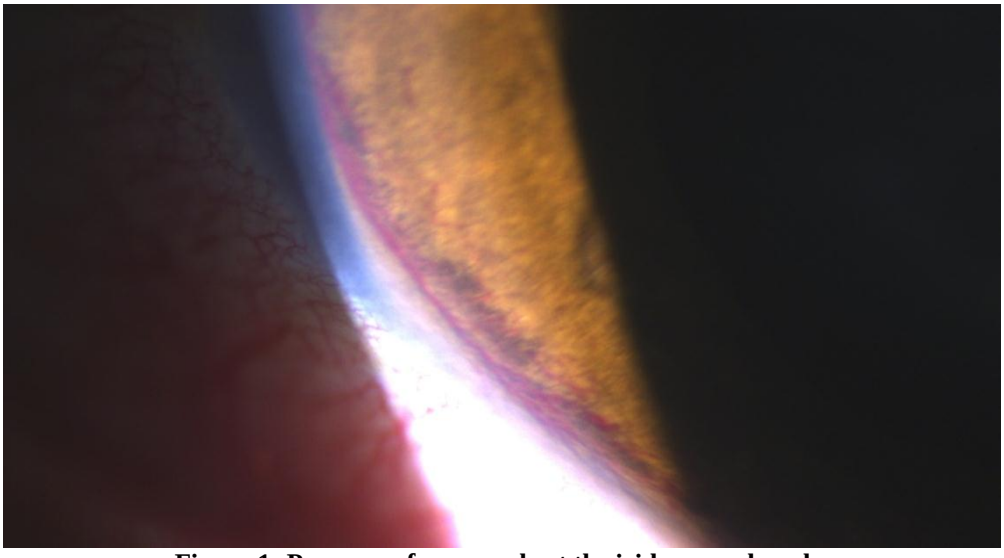

Figure 1: Presence of neovessels at the iridocorneal angle.

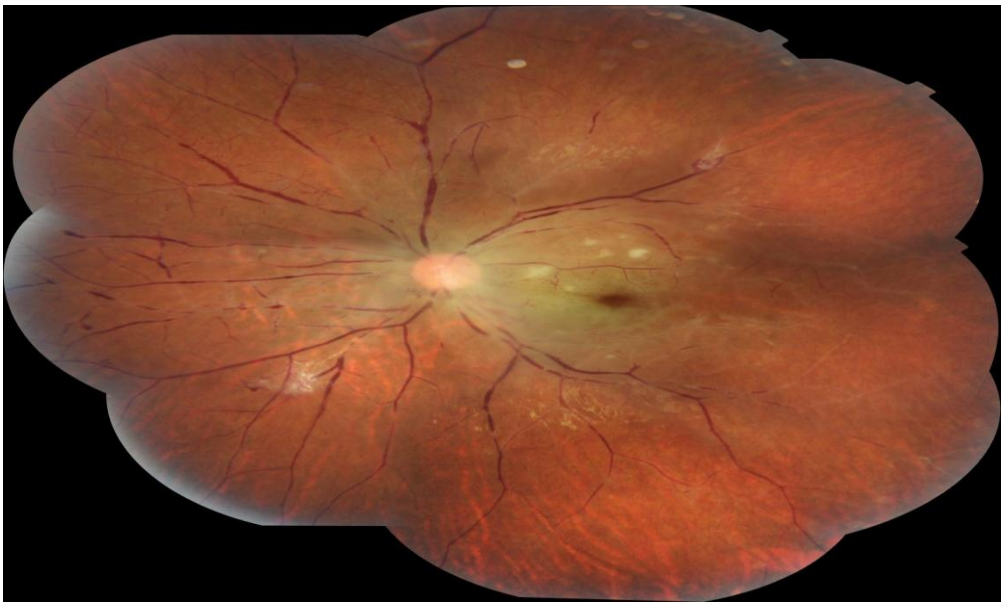

Figure 2: Dead tree image of the FO.

DISCUSSION

The pathophysiology of Takayasu's arteritis has been described as a chronic inflammatory disease progressively affecting the aorta and its branches, which can lead to secondary hypertension, retinopathy, cardiac pathology, stroke, and death at an early age.[3] Histopathological examination shows that mononuclear infiltration of the adventitia occurs early in TA.[4]

Complications are more severe in patients whose diagnosis of Takayasu's arteritis is made during pregnancy, compared to those whose diagnosis is made preconceptionally.[5]a

There are no current data on the correlation between the type of vascular involvement of Takayasu's arteritis during pregnancy and the clinical outcome.

The impact of Takayasu's arteritis on pregnancy is major, particularly to the development of preeclampsia and IUGR. The prognosis of the pregnancy is related to the risk of developing a complication secondary to hypertension. Other complications may occur but they are not specific to pregnancy, but rather dependent on the location of the lesions. There is a high prevalence of damage to the branches of the aortic arch, which begins in the subclavian artery and extends to other sites, confirming the Ishikawa hypothesis. In its pathophysiology, Takayasu's arteritis induces transmural inflammation of the artery wall and thus a decrease in the caliber of the lumen. The therapeutic aspect is articulated around two axes: the treatment of the disease and the treatment of its complications.

The treatment of Takayasu's arteritis when it is active is based primarily on corticosteroids usually continued in low doses for a long period of time during pregnancy and postpartum. When treatment is continued for a long time, it may contribute to secondary hypertension. With regard to anti-platelet agents, their systematic prescription during Takayasu's arteritis is not currently recommended by expert groups outside gestation.[11] There is currently no consensus during pregnancy.

In the management of women of reproductive age, pre-conception counseling is essential. This advice will focus on dosage adjustment, discontinuation of cytotoxic drugs, folic acid supplementation during the perception period, and optimal timing of pregnancy. Similarly, pregnancy should ideally be planned during the remission phase and patients are encouraged to do so. During pregnancy, multidisciplinary management is necessary with regular prenatal monitoring, serial monitoring of blood pressure, renal function, and cardiac and ophthalmic status. Ultimately, the goals include control of inflammation, prevention and treatment of complications such as occlusive or stenosis lesions.

CONCLUSION

Takayasu's arteritis does not appear to affect fertility. Pregnancy does not appear to cause flare-ups of arteritis, but may have an impact on maternal-fetal prognosis.

Pregnancy in patients with Takayasu's arteritis can be complicated, hence the need for a preconception consultation and appropriate multidisciplinary follow-up of these patients.

Overall, pregnancy planning is essential. An exhaustive assessment of the vasculitis is necessary to detect the various lesions of the vessels in order to discuss an adapted treatment, medical or possibly revascularization (surgery or angioplasty).[6]

The main complication of this disease during pregnancy is severe pre-eclampsia and its complications, which can lead to fetal death in utero. Antiplatelet agents should be offered from the beginning of pregnancy to reduce this risk in combination with corticosteroids if the disease is in an active phase. Anticoagulants should not be prescribed routinely unless needed for another indication. Larger-scale studies are needed to evaluate these treatments and improve the management of Takayasu's arteritis in pregnancy. When a complete evaluation of this vasculitis has been performed and if the follow-up is optimal and multidisciplinary, the evolution of the majority of reported pregnancies is generally favorable for both the mother and her fetus.

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