



TAKAYASU and pregnancy, a case report and review of the literature

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ABSTRACT

Takayasu disease is a primary arteritis of large and medium-sized vessels that primarily affects the aorta and its major dividing branches. Pregnancy in conjunction with Takayasu disease increases the risk of cardiovascular complications. We will present a case of a parturient followed for Takayasu disease and taken in charge in the maternity of the university hospital centre Hassan 2 in Fès with a favorable outcome of her delivery.

Keywords : Takayasu, pregnancy

INTRODUCTION

Takayasu's disease is a chronic inflammatory arterial disease of unknown etiology, primarily affecting the aorta and its branches. It is a predominantly female disease. In concurrent pregnancies with this pathology or after diagnosis, the risk of cardiovascular complications, such as hypertension and congestive heart failure, is significant [1]. Only a few cases have been described in the literature, hence the interest of our case.

MATERIALS AND METHODS

MEDICAL OBSERVATION

This is Mrs. B.A, aged 39; with a scarred uterus (obstetric scar); followed for TAKAYASU's disease in internal medicine at CHU HASSAN II of Fez for 9 years, with the biological assessment a moderate inflammatory syndrome and with the angiography of the Trunks-Supra-Aortics a total occlusion of the middle portion of the artery under the right clavicle as well as a narrowing at the level of the left axillary artery without frank stenosis. The ECG, transthoracic ultrasound and brain scan returned without abnormalities.

This is a fourth procedure with a history of two vaginal deliveries and a cesarean section in a context of preeclampsia giving birth to two boys and a girl of imprecise birth weight, currently 17 years old; 15 years and 07 years, all of good psychomotor development.

She was put on acetylsalicylic acid; long-term corticosteroid therapy (60 mg prednisone / day) and

Methotrexate stopped before conception.

The patient was referred to us for follow-up of her pregnancy at 5 months (1st consultation) contracted on the pill.

Monitoring in antenatal care revealed balanced blood pressure figures under diet alone. We assessed fetal well-being through ultrasound follow-up which showed normal growth; normal fetal doppler and heart rhythms performed on an outpatient basis returned to normal. The pre-eclampsia assessment was normal.

The patient was followed in antenatal consultations at the rate of one consultation per week with monitoring of blood pressure levels measured in the lower limbs; as well as a pre-eclampsia assessment; a fetal heartbeat and Doppler ultrasound of the uterine and umbilical arteries (which were normal). Note that she did not have any flare-ups of her pathology throughout the pregnancy.

She underwent hospitalization at 32 WA as part of closer monitoring as well as the decision of the delivery route based on progress.

She gave full term vaginal birth to a newborn male, Apgar: 10/10, birth weight: 3300g. The diaper suites were simple, uncomplicated.

RESULT AND DISCUSSION

Takayasu's disease is an arteritis of large and medium caliber vessels, the management of which is complicated by the absence of effective diagnostic criteria, validated therapeutic strategies and reliable activity criteria. Indeed, it is a pathology that can manifest itself in cardiovascular, neurological, ophthalmological damage ... Microscopic examination shows predominantly mid-adventitial segmental panarteritis. Diagnosis is based on a combination of clinical history, physical examination, clinical suspicion, and vascular imaging techniques. The etiology is unknown and the treatment is aimed at controlling the inflammatory process and preventing secondary sequelae, in particular systemic arterial hypertension [2]

Pregnancy can be indicative of the pathology (especially reveals or worsens pulmonary arterial hypertension), this is the case for a quarter of pregnancies occurring during Takayasu's disease [3, 4]. It would have an unfavorable influence on the course of the disease in 61% of cases [5]. Cardiovascular complications seem to be more frequent and are to be feared in the perinatal period (cerebrovascular accidents and cardiac decompensation during the third trimester and in the perinatal period [5, 6]). Maternal mortality would be 5% according to Wong, who reported two cases of death, one of which occurred on the fourteenth day of postpartum due to myocardial infarction [6]. Therefore, patients with Takayasu's disease must have very close monitoring, before and during pregnancy, to have a strict balance of blood pressure.

The fetal complications in Takayasu's disease are those of hypertension. Fetal hypotrophy has been observed in 18% of cases by Ishikawa [7]. It is caused by hypertension and hypogastric vessel damage which can lead to uteroplacental hypoperfusion [8]. Wong proposed a score allowing the evaluation of the fetal prognosis [6] (Table 1) according to the existence of the involvement of the abdominal aorta and the renal artery, of the arterial pressure during the third trimester, of the date of onset of preeclampsia and the start of correct management [8]. (TABLE I: Prognostic score for newborns of mothers with Takayasu) Each parameter is graded from 0 to 2: if the score is less than 4, the fetal prognosis is favorable. All newborns with a score of 4 or greater had a weight below the 3rd percentile. Regarding our case, we had a good prognostic score equal to 1.

To improve the maternal-fetal prognosis, it is a good idea to plan for pregnancy by first establishing

an assessment of the initial vascular lesions, and to authorize the latter only if the possible complications are prevented. [8]. In some cases, contraception will need to be started for a period of time, especially during treatment with an immunosuppressant. In other cases, pregnancy may be possible while continuing treatment, under regular medical supervision [3].

The management of pregnancy must be bi-disciplinary, cardiological and obstetrical, by regularly monitoring blood pressure, which can be tricky in the event of impairment of the humeral arteries, the measurement will then be made at the level of the lower limbs. Biological monitoring will include urea, creatinine, proteinuria, transaminases and platelets [1, 3].

The fetal state is assessed by ultrasound which will estimate fetal growth and doppler, and by fetal heart rhythms. The authors recommend preventive treatment with antiplatelet agents based on acetyl salicylic acid at a dose of 100 mg / in the event of hypertension or valve prosthesis [5, 8, 9].

During pregnancy, corticosteroid therapy can be started or continued. Hospitalization of the patient can sometimes be justified as early as 32 weeks for better maternal-fetal monitoring [8], which was the case for our patient.

In the event of an outbreak of the disease during pregnancy, the recommended treatment usually combines boluses of Solumédrol® 15 mg / kg per day (without exceeding 1 g) three consecutive days with relay of prednisone 1 mg / kg per day. In refractory cases, azathioprine can be introduced [3]. High blood pressure should be treated aggressively with calcium channel blockers or alpha and beta blockers.

Delayed treatment results in an unfavorable environment for the fetus. Ishikawa and Matsuura [7], and Wong et al. [6] reported a high incidence of intrauterine growth retardation and hypertension, and the involvement of the maternal abdominal aorta were cited as causative factors for the same.

Pre-eclampsia has been noted by several authors [3, 6]. Indeed, the level of blood pressure determines the evolution during pregnancy [3, 10]. Wong reported 11 cases out of 15 completed pregnancies [6]. But blood pressure is difficult to take when the vascular involvement is brachial, and high blood pressure is not diagnosed until it is measured in the lower extremities [4, 5,6]. In addition, pregnancies reported during Takayasu's disease are at high risk for high blood pressure and eclampsia, especially when there is damage to the renal arteries. The pulmonary arteries are affected almost half of the time in Takayasu disease [3].

Vaginal delivery is authorized with perfect lesion control. Prophylactic cesarean section is reserved for severe forms of arterial disease with poorly controlled hypertension, with arterial aneurysm or in the event of heart failure [4, 8]. Our patient gave birth vaginally. Epidural analgesia is recommended because it reduces blood loss. hypertensive peaks caused by pain. Instrumental extraction is desirable to shorten expulsive efforts [8].

Postpartum, the use of oxytocin is permitted, but rye ergot derivatives are contraindicated. Breastfeeding is not contraindicated [5]. Prevention of thromboembolic disease is necessary [8].

Estrogen-progestogen contraception is contraindicated. The prescription of new molecules of minidose progestins is possible in young non-hypertensive women with mild form and without any other risk factor. Mechanical contraception using an intrauterine device is possible in the absence of contraindications, including valve disease or anticoagulant therapy [8].

TABLE I: Prognostic score of newborns of mothers with Takayasu

Score	Abdominal aortic involvement	Start of care	Mean arterial pressure in the 3rd trimester (mm Hg)	Preeclampsia
0	No	1st trimester	> 100	No
1	Yes	2nd trimester	101-130	3rd trimester
2	Yes + damage to renal arteries	3rd trimester	<130	1st or 2nd trimester

CONCLUSION

Pregnancy is lawful with uncomplicated or uncomplicated Takayasu disease. However, it can be burdened with serious complications threatening the vital prognosis of the mother (pre-eclampsia, cardiac decompensation) and fetal (intrauterine growth retardation); hence the obligation of programming and cardio-obstetrical monitoring of pregnancy.

REFERENCE

- [1] K. BERROHO, A. ACHIQ, MH. ALAMI, L. ELBARNOUSSI, Z. TAZI, A. FILLALI, R. BEZAD, C. CHRAIBI, *Maladie de Takayasu et grossesse*. N° 188- Juillet/Août **2011**, Médecine du Maghreb.
- [2] Berman DP, Lewis AB, Kung GC. Case Report of a 2-year-old boy with Takayasu's arteritis: an atypical, severe presentation of a rare disease. *Pediatr Cardiol.* **2010** Oct;31(7): 1089-92. PubMed| Google Scholar
- [3] L. BELYAMANI, H. AZENDOUR, A. ELMOQADEM, J. KOUACH, S. ZIDOUH, N. DRISSI KAMILI, *Takaysu et grossesse, fait Clinique*, *Annales de Cardiologie et d'Angéiologie* 58 (**2009**) 187-188.
- [4] DORIA A., LACCARINO L., GHIRARDELLO A., BRIANI C., ZAMPIERI S., TARRICONE E., *Pregnancy in rare autoimmunerheumaticdiseases : UCTD.MCTD. myositis, systemicvasculitis and Behçetdisease*. *Lupus* **2004** ; 13 : 690-5.
- [5] GARA F., BZN AISSA N., JOUINI M. *A propos de l'association artérite de Takayasu et grossesse*. *La Tunisie Méd.* Fév. **2002**, tome 80, n° 2.
- [6] WONG et al. *Pregnancy and Takayasu s'arteritis*. *AM. J. Med.* **1983** ; 75 : 597-601.
- [7] ISHIKAWA K., MATSUURA S. *Occlusive thromboaropathy (Takayasu'sdisease) and pregnancy*. *Am J Cardiol* **1982**: 50 : 1293-300.
- [8] L. SOUBAI, B. IDRISIL, A. BENANANE, A. FILALI, M.T. ALAOUI, *Maladie de Takaysu et grossesse, à propos d'un cas*, Juillet/août **2009**, n° 168, médecine du Maghreb.
- [9] WECHSLER B., BLETRY O., *Maladies systémiques. Artérite de Takayasu*. *Pathologies*

maternelles et grossesse. Paris : Meds/Mc Graw Hill Ed. **1988** : 322-323.

[10] MATSUMURA A., MORIWAKI R., NUMANO F., *Pregnancy in Takayasuarteritis from the view of internalmedecine*. HeartVessels Suppl. **1992** ; 7 : 120-4.