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Breast Cancer and Pregnancy about a Case and Review of the Literature, Experience of the Obstetric Gynecology Department of the Military Training Hospital Mohamed V of Rabat

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Abstract **Case Report**

The management of pregnancy-associated breast cancer is a challenge for physicians, often stemming from the mother's desire to carry the pregnancy to term despite the need for chemotherapy. 26-year-old patient, multiparous, with no particular history, followed from 20 weeks of amenorrhea (SA) for triple-negative infiltrating mammary carcinoma who underwent two courses of neo-adjuvant chemotherapy combining 5-Fluorouracil, Epirubicin and Cyclophosphamide after discussion in multidisciplinary consultation meeting (RCP) and the consent of the couple, who presented a threat of premature delivery at 34 WA, the day after their 2nd course of chemotherapy. The evolution of the pregnancy was favorable; the delivery was vaginally at 37 SA of a newborn with good neonatal adaptation. Several parameters must be considered when administering antineoplastics, hence the importance of close fetal and obstetric monitoring. A multidisciplinary approach is recommended for the therapeutic decision and follow-up.

Keywords: Cancer, breast, pregnancy, chemotherapy, childbirth, surgery.

I. INTRODUCTION

Breast cancer is the most common female cancer in the world. Its association with pregnancy is defined by diagnosis during pregnancy or during the twelve months postpartum [1]. It is most encountered during pregnancy with an incidence of 1 in 3000 pregnancies [2, 3] and constitutes 0.4% of breast cancers diagnosed in women between 20 and 49 years old [4]. Breast cancer associated with pregnancy (CSAG) is often described as a more aggressive cancer because it is detected later than outside of pregnancy [3, 4]. The concomitant occurrence of these two clinical entities poses various diagnostic, therapeutic and prognostic problems. The decision to start chemotherapy is difficult to make because of the maternal-fetal risks [6]. We report a case of breast cancer associated with a pregnancy which benefited from chemotherapy during pregnancy, with a good outcome of the pregnancy and a good evolution of the mother.

II. PATIENT AND OBSERVATION

This is a 26-year-old patient, group A rhesus positive, G4P2, with no family history of neoplasia. Having presented from 20 WA on self-examination of a nodule in the left breast in which breast ultrasound showed a nodule in the upper-external quadrant measuring 12/8 mm and classified BIRADS 4 without axillary lymphadenopathy; supplemented by a tricut biopsy with anapath of an infiltrating mammary carcinoma of the non-specific SBR III type with absence of peritumoral vascular emboli, negative hormone receptors, negative HER2, Ki 67 at 60% classified as T1cN0Mx, i.e. a triple negative.

An extension assessment based on chest x-ray and abdominal ultrasound was done without any particularities.

File discussed in a multidisciplinary consultation meeting, the decision was to put the patient on neoadjuvant chemotherapy after placement of an intra-tumor clip and consent of the couple.

On the obstetric level, the patient benefited from a pulmonary maturation from 28 SA, the evolution was marked by the installation of an isolated microcytic hypochromic anemia at 8 g/dl complicated by a threat of childbirth. Premature at 34 SA, i.e. the day after the second course of chemotherapy; the patient received the transfusion of 2 red blood cells with a control hemoglobin level of 10 g/dl then a curative dose of iron treatment.

It was initiated with misoprostol at 37 WA, followed by vaginal delivery of a newborn male APGAR 10/10 with a birth weight of 3320 g received by the pediatrician with a normal examination. Artificial breast-feeding, with blocking of the milk flow have been indicated.

A conservative treatment plus sentinel lymph node will be carried out after the neoadjuvant chemotherapy, then she will benefit from radiotherapy and regular follow-up.

III. DISCUSSION

Breast cancer associated with pregnancy is rare, representing approximately 0.2 to 1% of all breast cancers [2]. It is a high risk pregnancy. The association of bilateral breast cancer and pregnancy remains exceptional [6]. Fifteen percent of women under 40 with breast cancer are pregnant at diagnosis [3]. This proportion remains low but tends to increase due to the delay in the age at first pregnancy and the increase in the overall incidence [4].

It is more often diagnosed at an advanced stage than in non-pregnant women [1].

Recent studies show that the poor prognosis is also linked to a delay in diagnosis, to the postponement of treatment in order to guarantee a good outcome of the pregnancy [3, 7, 8]; and sometimes a` a particular immunohistochemical profile of the patient making the tumor more aggressive [6, 9]. This diagnostic delay could be explained by the gravidic changes of the breast making it more difficult for the patient to detect a mass or during a clinical examination, and on the other hand by the negligence of certain breast examination practitioners, content with monitoring the pregnancy, and their unjustified reluctance to request additional potentially irradiating screening examinations.

For our patient, the diagnosis was made at the T1cN0Mx stage at 20 SA. The management of malignant pathologies in pregnant women is a challenge for obstetricians, oncologists and neonatologists alike [1]. The termination of pregnancy does not improve the prognosis of the mother, its continuation would even be correlated with better maternal survival [6]; this despite the fact that it is only considered in the first trimester when the need to start treatment is an emergency [2, 10].

The mother's prognosis is poor [6]. The benefits for the mother must be taken into account and balanced with the effects of chemotherapy on the fetus [11]. The first trimester is the most critical time in relation to teratogenic effects [11], where the potential risks of chemotherapy are abortion and congenital malformations [2]; and in the second and third trimester, the most described risks are low birth weight and prematurity [12]. All chemotherapies are potentially teratogenic, they are contraindicated in the first trimester of pregnancy but they are acceptable during the second and third trimester [3, 8]. Deferring treatment increases the oncological risk of progression and transplacental metastasis [1, 6]; and death of the mother [1, 7].

The treatment follows that of the non-pregnant woman taking into consideration the gestational age at diagnosis and the term. The first choices are molecules based on anthracyclines [2]. Several cases and series of treatment of pregnant women with polychemotherapy including Epirubicin have not shown fetal cardiotoxicity; the cases described are limited [11]. When the use of anthracyclines is contraindicated or if there is no response, taxanes will be adopted, preferably Paclitaxel [2]. Going into labor can happen spontaneously after the 34th week of amenorrhea (WA), the administration of systemic treatment should therefore be arrested before the 33rd SA to avoid delivery in the nadir period [2]. What was done for our patient. The use of Tamoxifen is contraindicated during pregnancy and the use of Trastuzumab should be deferred after childbirth [2, 11]. Termination of pregnancy should no longer be systematic, because it does not improve the prognosis. It must be taken according to the therapeutic needs and the wishes of the couple. The surgical procedure depends on the TNM classification; it consists either of a radical or conservative treatment associated or not with lymph node dissection [12].

Lover *et al.*, in 2015 compared children who had been exposed antenatally to chemotherapy with other children; their results showed that these children had normal development; chemotherapy has no harmful effects on the psychomotor development and the staturo-ponderal development nor on the cardiac function of these children [12]. Our baby is in good health; a personalized care plan is decided in a multidisciplinary consultation meeting.

CONCLUSION

Pregnancy-associated breast cancer is rare, most often diagnosed at an advanced stage; whose management is based after the first trimester of pregnancy, chemotherapy which is well tolerated and with good outcome of the pregnancy is possible. Certainly there are recommendations for the treatment of breast cancer in pregnant women but there is no

consensus; all cases must be discussed and presented before a multidisciplinary consultation meeting to maximize the benefits for the mother and minimize the risks for the fetus.

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