

Breast engorgement during pregnancy About 2 cases and review of the literature.

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Abstract: *The breast undergoes numerous physiological changes during pregnancy to prepare for breastfeeding, making breast assessment difficult in these patients. Breast engorgement is the consequence of an asynchrony between lactogenesis, already operational, and the milk ejection mechanisms, which are still ineffective. It is characterized by an accumulation of fluids in the mammary gland with significant difficulty in evacuation, occurs after childbirth, rarely during pregnancy, raising numerous diagnostic hypotheses. We reported the case of two patients of childbearing age, without notable pathological history, hospitalized in our department as part of the management of a high-risk pregnancy, one having received antenatal corticosteroid therapy for fetal lung maturation and aldomet for high blood pressure figures with obstetric ultrasound having revealed intrauterine growth retardation, the 2nd parturient having also received antenatal corticosteroid therapy, the 2 parturients present a bilateral and painful increase in both breasts 24 hours after the last course of corticosteroid therapy, the treatment uses physical measures with good improvement.*

Keywords: breast engorgement, pregnancy, physical measurements

INTRODUCTION

The breast undergoes numerous physiological changes during pregnancy to prepare for breastfeeding, making breast assessment difficult in these patients.

Clinical breast examination is essential during pregnancy and postpartum.

Interest in the physiology of prolactin and the pathophysiology of hyperprolactinemia.

Other lesions responsible for breast overdistension.

Treatment on a case-by-case basis.

1- Case Study

a- First case

This is a 31-year-old pauciparian, current pregnancy of 34 weeks, course marked by balanced gestational diabetes under diet, with notion of hyperhemeses gravidarum in the first trimester initially placed on beta-blocker and antiemetics, currently stopped, in whom the clinical examination finds a conscious patient, hemodynamically and respiratory stable, afebrile, normotensive, normocardial, with a vaginal examination not done in a patient outside of work.

Blood pressure OK under any treatment.

unremarkable biological assessment,

Obstetric ultrasound: Growth retardation which is probably of vascular origin.

The patient received a course of antenatal corticotherapy during her hospitalization for fetal lung maturation.

During her hospitalization, the parturient presented with bilateral and painful enlargement of both breasts.

A breast ultrasound was performed: no suspicious lesion, with extremely dense breasts

The patient was treated by physical means, with regression of the symptoms after 3 days.

b- Second case

This is a 35-year-old prim gravida, current pregnancy of 35 weeks of amenorrhea, progress marked by the occurrence of neurosensory signs of arterial hypertension with edema of the lower limbs motivating her consultation with us for Management, in whom the clinical examination finds a conscious patient, with a blood pressure of 17/9 twice after rest of 20 minutes, eupneic, with edema of the lower limbs reaching up to the knees, otherwise no abdominal contracture, reflexes keen osteotendinous, Note that the patient reports a notion of oliguria, Oscillating and reactive fetal heart rate with a vaginal examination not done in a patient outside of work.

Our initial action was to stabilize the patient: quiet room, left lactate decubitus, establishment of a peripheral venous line

Initiation of antihypertensive treatment with blood pressure objective of systolic blood pressure 15-14 and diastolic blood pressure between 9-10: under dual antihypertensive therapy

Magnesium sulfate loading dose then maintenance dose.

Initial preeclampsia assessment: correct

Obstetric ultrasound: Progressive single-fetal pregnancy, Breech Presentation, homogeneous placenta, amniotic fluid in normal quantity, satisfactory biometry.

3 days after her hospitalization, the parturient kept balanced blood pressure figures under monotherapy based on a central antihypertensive drug. Moreover, she presented a bilateral and painful enlargement of both breasts, with on clinical examination: red tense breasts with milk, the patient was treated by physical means with evacuation of milk, the evolution marked by a regression of the symptoms

DISCUSSION

Regulation of prolactin synthesis and secretion:

The biosynthesis and secretion of Prolactin are controlled by factors either central (hypothalamus) or peripheral (gonads, thyroid). (1.2)

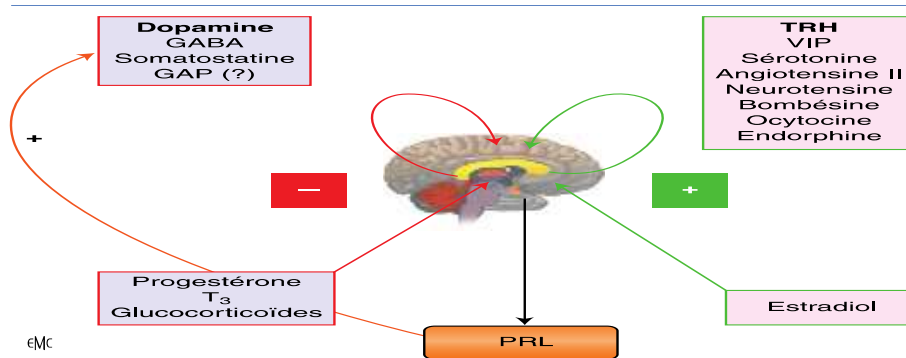


Figure 1 : régulation de la prolactine

During pregnancy:

At the mother's:

From the 1st trimester of pregnancy: Prolactin levels rise progressively and linearly.

At the end of pregnancy: the levels obtained are more than 10 times higher than the initial Prolactin levels.

During work

Prolactin levels show fluctuations: rise during the first hours, then fall 2 hours before delivery, before rising 2 hours after delivery.

It seems in any case that Prolactin levels are not modified during pathological pregnancies (pregnancy with polyhydramnios, intrauterine fetal death or fetus with anencephaly).

In the fetus and in the amniotic fluid

The fetal pituitary gland secretes prolactin from the 5th week of prolactin gestation; found mainly in amniotic fluid.

Breast engorgement:

Breast engorgement is the consequence of an asynchrony between lactogenesis, already operational, and the milk ejection mechanisms, which are still ineffective.

Breast engorgement is characterized by an accumulation of fluids in the mammary gland with significant difficulty in evacuation. Many fluids can be involved such as milk, lymph, blood and exudates (edema).

Diagnosis:

fever at 38°C; bilateral breast pain; breasts hard, tense, very painful; around the 3rd day postpartum.

Rarely during pregnancy (3.4)

Etiological hypotheses

A- Primary hyperprolactinemia (pituitary):

Prolactinoma: This is the most common pituitary tumor (40 to 50%). (5)

B. Secondary hyperprolactinemia:

1. Conditions of the hypothalamus and pituitary stem

A hypothalamic tumor (craniopharyngioma, glioma, metastases, etc.), an infiltrative disease of the central nervous system (sarcoidosis, histiocytosis X, etc.), (6)

2. Medications

Neuroleptics and anti-emetics are dopaminergic agents, capable of inducing hyperplasia of lactotropic cells and markedly increasing Prolactin levels.

Tricyclic antidepressants, monoamine oxidase inhibitors, morphine derivatives and cocaine can also increase – more modestly – prolactinemia.

Certain hypotensive medications (alpha-methyldopa, reserpine, verapamil) and intravenous medications can also be responsible for moderate hyperprolactinemia. (7)

C. Other

• **Galactocele:**

Benign lesion most common in breastfeeding women and can present during the third trimester, after childbirth or even after stopping breastfeeding.

*Galactoceles usually occur as a result of an obstructed duct leading to distension of the proximal lobular segments.

*Patients most often present with a tender and painful mass.

* When the ultrasound diagnosis is not conclusive, aspiration cytology is recommended in order to confirm the fluid nature of the lesion which most often leads to its collapse. (8)

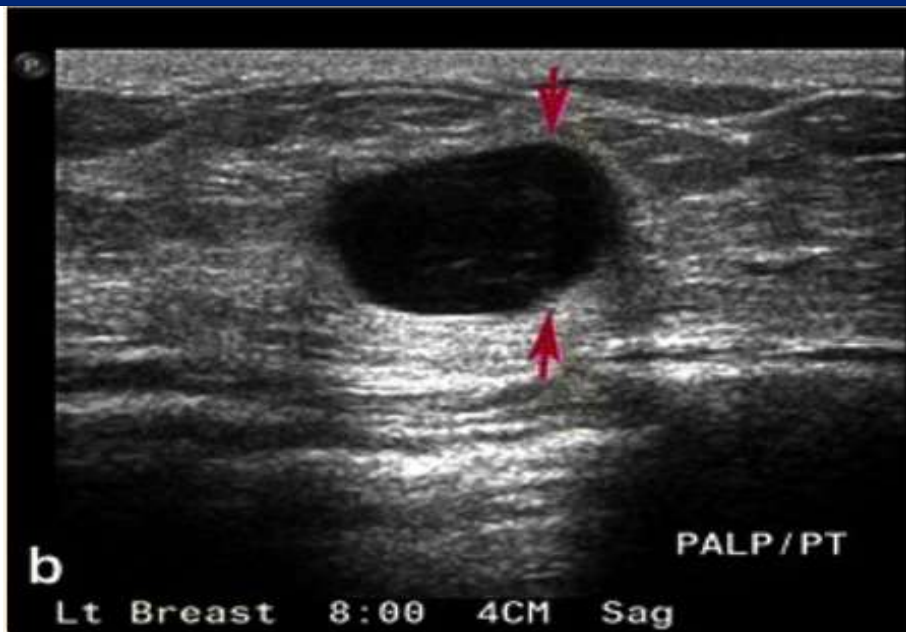


Figure 2 : ultrasound image of a galactocele

- **fibroadenoma:**

Most common tumor in young women, 10-20% of bilateral cases

During pregnancy: Stable +++, Appearance de novo,

frequent increase in volume (estrogens), Painful ischemic necrosis

Clinical: Firm and mobile mass

Ultrasound: Oval mass; Axis parallel to the skin; Homogeneous hypoechoic; Very limited

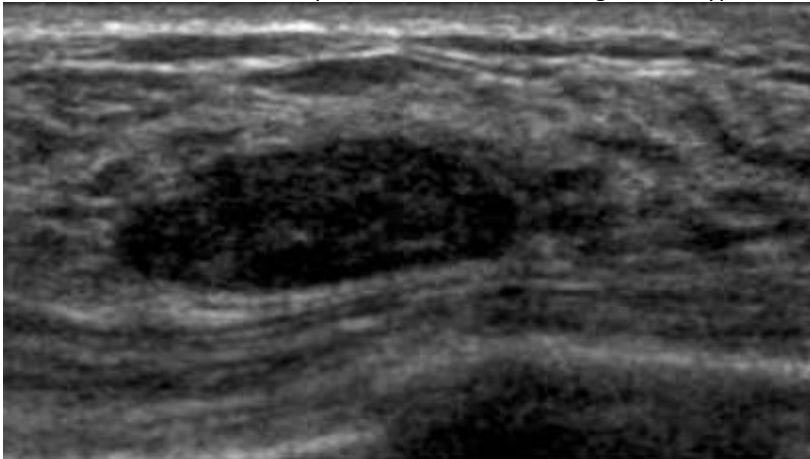


Figure 3 : ultrasound image of a fibroadenoma

- **Lactating adenomas:**

Benign epithelial tumor, common, can be encountered throughout pregnancy, but more frequently during the third trimester and lactation.

Clinical: a mobile mass, of soft consistency, except in cases of infarction, which then generates pain and firmness on palpation. variable ultrasound characteristics,

Microbiopsy to confirm the diagnosis and rule out cancer

Regression in the postpartum period even if breastfeeding (in the absence of regression, excision can be discussed

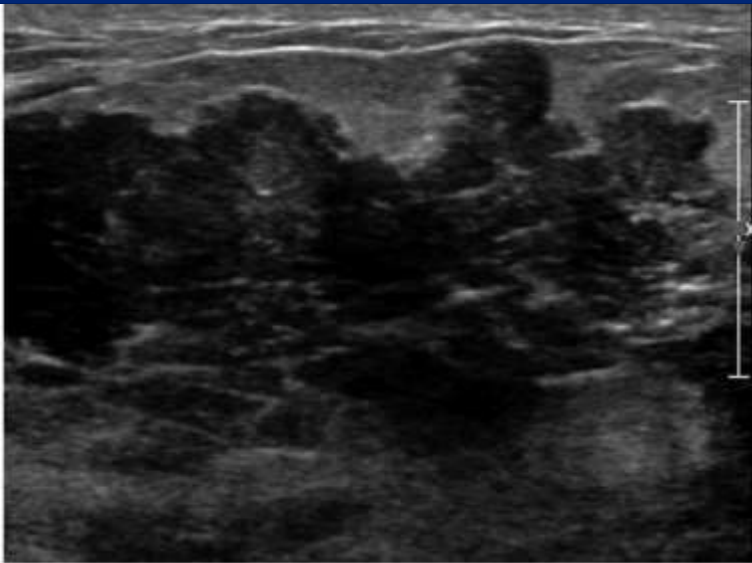


Figure 4 : ultrasound image of a lactating adenoma

- **gigantomastia**

Massive breast enlargement (gigantomastia) is a rare condition during pregnancy.

Secondary has increased sensitivity to estrogen, progesterone and prolactin.

Clinical: significant enlargement of the breasts bilaterally which can lead to tissue necrosis, ulceration, infection, (9)

Diagnosis: imaging , No biopsies

Sometimes requires surgical reduction.

- **Iatrogenic**

The occurrence of breast engorgement with galactorrhea has been reported in pregnant women treated with **magnesium sulfate** but the exact mechanism of occurrence is not known.

A prospective study of 87 pregnant women who received **betamethasone** due to threatened premature birth. presented transient galactorrhea accompanied by breast engorgement (It seems that the corticosteroid, in the presence of a high level of prolactin (10)(which is the case at the end of pregnancy), triggers the activation of the mammary gland.

☐ One of our patients having received antenatal corticosteroid therapy while the 2nd one noted that the mg sulfate associated with antihypertensive treatment with alpha methyl dopa had caused breast engorgement in her as a very rare side effect.(11)

Conclusion:

Senological examination: obligatory for pregnant women

Several benign pathologies

Breast engorgement as a rare side effect of antenatal corticosteroid therapy and Aldomet

Treatment depending on etiology.

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