Gravidic macromastia

A problem for the patient and for the doctor

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Summary: Gravidic macromastia is a condition characterized by an excessive and generalized enlargement of the breasts which occurs during pregnancy or shortly after pregnancy. It is a rare condition whose etiology is unknown. Most Authors describe it as a pathology which is influenced by a disturbed play of hormones of hypersensitivity of mammary tissue to normal hormone stimulation. A therapeutic approach is discussed with reference to the literature.

Key words: Gravidic macromastia; Complication of pregnancy.

INTRODUCTION

Gravidic macromastia is a condition characterized by an excessive and generalized enlargement of the breasts which occurs during pregnancy or shortly after pregnancy. It is a rare condition, found in 1:100,000 pregnancies ([1, 2]). The etiology of this pathology is unknown. Most Authors describe it as being influenced by a disturbed play of hormones or hypersensitivity of mammary tissue to normal hormone stimulation ([3, 4]). Along with the breast pain, which is generally associated with this pregnancy complication, a patient also suffers from: back and shoulder pain due to incorrect body position, difficulties with locomotion, dyspnea, psychological discomfort, and depression. Up until the third trimester the pregnancy most often develops well but after this period most Authors observed growing fetal hypotrophy ([1, 5]). Laboratory tests of placental and pituitary gland function remained generally within the limits of normal ([4, 6]). The therapy of gravidic macromasty is a conservative one and it resorts to administration of hormones (gestagens, bromocryptine), analgesics and also giving the patient a special corset. After the pregnancy comes to term, surgical correction is often done and this procedure generally gives good results ([1, 6]).

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CASE REPORT

A 35-year-old woman, gravida 3, para 2, aborta 0 was admitted at 20 weeks gestation to the Pregnancy Pathology Department because of excessive enlargement of the breasts, bilateral tenderness and pain, and severe discomfort in her shoulder and back. The first menstrual period was at 14 years with regular menstrual

cycles every 28 days. At 17, during a routine check-up, a tumour was found in her right mammary gland. A specimen was taken and the histopathological examination revealed *fibroadenosis benigna mammae*. The patient had a duodenal ulcer in her history. Over the whole course of pregnancy her breasts were enlarged (Figs. 1, 2). The measurement around them was as it follows: at 20 weeks - 128 cm, at 24 - 130 cm, at 32 - 122 cm, at 34 - 130 cm and 136 cm after the pregnancy came to term. On palpation the breasts were tender, skin was reddened and smooth, nipples unchanged and regional lymph-nodes unpalpable. Breast pain significantly subsided after the administration of bromocriptine (5 mg/24 h). However, beginning at 28 weeks, despite increased doses of the drug (7.5 mg/24 h) the pain recurred. At 22 weeks, after oncological consultation, a specimen was taken from both breasts to exclude any malignant process. Histopathological examination revealed *dysplasia fibrocystica mammae c. hyperplasiae lobularis*. Throughout pregnancy the patient also had spinal pain, initially in its cervical and pectoral part and in the terminal stage of pregnancy the pain was in the lumbo-sacral part. All the discomfort persisted despite the fact that the patient wore a special brassiere supporting the breasts. As the pregnancy developed the patient's locomotion was more and more disturbed and her psychological condition was worsening which almost led to depression so she received Diazepam (9 mg/24 h). The uterus size always correlated with the gestational age. Biometric examinations of the fetus, done every 10-14 days, showed slight hypotrophy (2-3 weeks « in minus » with regard to gestational age according to the Neagele rule), however the rate of growth was adequate. At 35 weeks Doppler examination revealed borderline feto-placental flow (umbilical artery RI - 0.79) and borderline aortal flow (descending aorta RI - 0.92), whereas uteroplacental flow was correct. A sella turcica X-ray did not show any pathological changes. Eye fundus was normal. Placental hormones - lactogen (hPL) and hormones of feto-placental (total urine estrogen) remained within normal limits throughout the entire pregnancy. A twenty-four-hour prolactin profile was done three times. At 22 weeks prolactin levels ranged between 582-954 μU/ml. At 28 weeks these levels were the highest and ranged between 940-1450 μU/ml whereas at 33 weeks they remained low at 74-263 μU/ml. A twenty-four prolactin profile done in late puerperium ranged between 146-1363 μU/ml. Each prolactin profile was followed by a test with metoclopramid. In each case the level of this hormone increased 2-4 times. Pituitary gland hormones at 22 weeks were as it follows: FSH - 1 mU/ml, LH - 15 mU/ml, GH - 13 ng/ml, TSH - 1.2 μU/ml. Thyroid gland hormones at the same time were as follows: T3 - 1.9 nmol/l, T4 - 103 nmol/l,

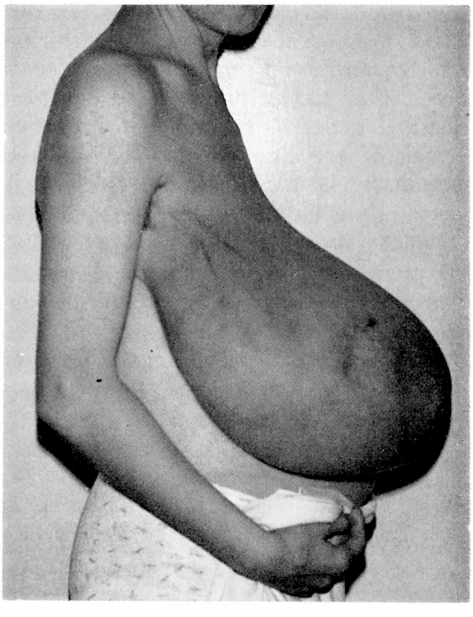

Fig. 1. — Pregnancy at 32 weeks.

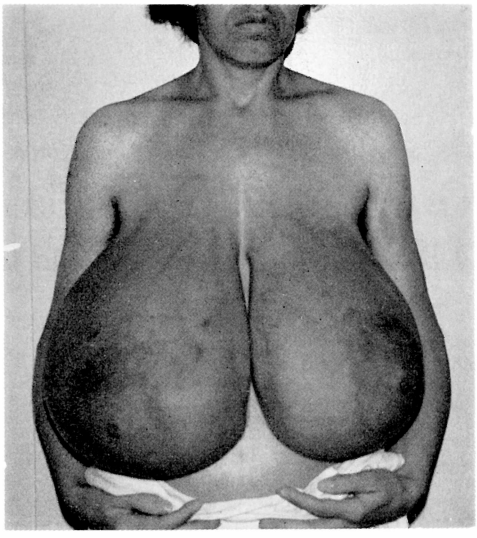

Fig. 2. — Pregnancy at 32 weeks.

whereas adrenal cortex in the 24-hour urine were: 17KS - 6.9 mg, 17OHKS - 3.5 mg. After 32 weeks a non-stress test (NST) was done on a regular basis and these tests were always reactive. Due to increasing pain in the mammary glands, dyspnoea, difficulties regarding everyday life, a decision was made to end the pregnancy by caesarean section at 35 weeks of gestation. A healthy 2080 g daughter was delivered (Apgar score - 8 points). There were no complications during the neonatal period. The patient was discharged from the hospital on the seventh day after delivery, after the date of correctional surgery for breasts had been set with the plastic surgeon. The late puerperium was complicated by a trombophlebitis in the left leg. Eight weeks after childbirth correctional surgery of the breasts was done with an outstanding results.

DISCUSSION

Gravidic macromastia is a rare condition of an unknown etiology. Reiher and Segschneider ([3]) have found a disturbed play of hormones as a causative factor of this condition. Lending credence to that is its association with pregnancy and pupubescence. Beischer *et al.* ([2]) and Lewison *et al.* ([7]) have stated this pathology is primarily due to the hypersensitivity of glands to poorly metabolized chorion-gonadotrophine in the liver. According to Zienert ([1]), a doctor dealing with pregnancy complicated by macromasty should exclude malignant procedures (ultrasonography, mammography), treat inflammatory processes of the skin – often associated with this condition, do hormonal laboratory tests, take care of the patient's spine and monitor the fetus. In our case, any malignant process was primarily excluded based on the histopathological examination which allowed the diagnostic procedures to be shortened.

Hormonal tests evaluating the pituitary, thyroid and adrenal cortex functions remained within normal limits. Similar results have been obtained by other researchers ([4, 6]). Construction of a special corset to suppor the breasts, as suggested by some Authors ([1]), seems to be valuable.

In our case, giving the patient a special brassiere alone led to increased spine pain and discomfort. Monitoring the fetus (KTG, USG, placental hormones), except for slight fetal hypotrophy (2-3 weeks "in minus" with regard to gestational age by the Neagele rule), did not show abnormalities. However, some researchers ([1]) have found decreased levels of placental hormones and pathological blood flow (umbilical and cerebral arteries) in cases of significant fetal hypotrophy in an advanced pregnancy. Most pregnancies are brought to term by a caesarean section ([1, 4]) due to the unsatisfactory condition of the fetus or as in our case, the patient's difficulties regarding her everyday life. Hormonal therapy for gestation macromasty still remains controversial. Lewison *et al.* ([7]) by administering gestagens have significantly downsized the breasts. However, Tchabo ([6]) has stated that such therapy is not effective. In our case, by initially giving the patient bromocriptine all her complaints were reduced. However, later on in her pregnancy, despite an increased dose of the medication, there was no therapeutical effect. It seems to be worthwhile to point out that despite giving the patient bromocriptine, prolactin levels were the highest at 28 weeks of gestation. In Hedberg is study ([4]) bromocryptine therapy lowered prolactine levels and these levels were in reverse proportion to the dosage. An effective therapeutical approach with good cosmetic outcomes is a surgical procedure which should be done after puerperium ([1, 6, 8]). Such an approach turned out to be effective in our patient.

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