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Lactating Adenoma in Pregnancy: A Case Report

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ABSTRACT

Background: Lactating adenoma is a rare palpable breast lesion that occurs late in pregnancy or the lactation period and is commonly found in young primiparous women in the second or third decade of life. This case report aims to describe lactating adenoma and its management. **Case presentation:** A woman, 24 years old, 26 weeks pregnant, came to the Surgical Oncology Polyclinic of Dr. Moewardi Hospital Surakarta with a complaint of a lump in the right breast from the last 4 months. The lump was felt to be getting bigger, painful to the point that sometimes fluid came out of the nipple of her right breast. The patient had a history of previous lumps with a diagnosis of fibroadenoma that had been operated on. On palpation multiple nodules are palpable. Mammography examination showed a mass with partial calcification (BIRADS 3). The patient was diagnosed with a tumor of mammae dextra suspected of malignant cT2N1Mx with G1P0A0 26 weeks gestation. Histopathological examination results showed a lactating adenoma. **Conclusion:** There are several recommendations for the management of lactating adenoma during pregnancy. An antepartum biopsy is recommended for women with a breast mass in the first or second trimester, postpartum for masses that appear in the late third trimester, and fine-needle aspiration biopsy as an alternative for masses that appear in the early third trimester. Treatment with bromocriptine, a dopamine agonist, may be given to reduce the size of the lactating adenoma.

1. Introduction

Breast cancer is the most common malignancy in women and the most common cause of death in women.¹ Breast cancer is also the most common cancer found in pregnant and lactating women,^{1,2} with an incidence of 1 case in 3,000 pregnancies.³⁻⁶ Approximately 7% of women with breast cancer will experience pregnancy.³ Pregnancy-associated breast cancer (PABC) is most commonly found in women who delay pregnancy at the age of 30 to 40 years.⁴ The most common age for breast cancer in pregnancy is 32-38 years.⁵ Breast cancer in pregnancy is often found at an advanced stage. A previous study reported that of

88 breast cancer patients in pregnancy, 19 inoperable patients, 69 operable patients, 89% of lymph nodes (KGB) were positive in the ipsilateral axilla.¹

A lactating adenoma is a rare palpable breast lesion that occurs late in pregnancy or the lactation period and is commonly found in young primiparous women in the second or third decade of life. Although the condition is benign, occasionally, a core biopsy is required to rule out malignancy. Multiple lumps, pain, and clear fluid are coming out of the nipple. Clinically, it presents as a firm, painless, mobile mass that usually regresses spontaneously after the lactation

period. Breast cancer in pregnancy shows unique symptoms and becomes a challenge in its diagnosis, so it requires careful consideration for both the mother and the fetus.

2. Case Presentation

A 24-year-old woman with her first pregnancy came to the surgical oncology outpatient clinic complaining of a lump in the right breast after 4 years. Last month. Initially, the lump was the size of a marble and was felt to be getting bigger. The lump was felt to be getting bigger in the last 2 months. The patient complained of 3 lumps in his right breast, accompanied by pain and clear fluid coming out of the right nipple. Pain is mainly felt when the patient is tired and decreases when the patient rests. There were

no complaints of lumps in the right or left armpits or elsewhere. Complaints of headache, chest pain, coughing, pain in the spine, and other bones were denied. The patient is currently 22 weeks pregnant for the first time. Contractions have not been felt, discharge from the birth canal is denied, nausea and vomiting are denied, and weight gain during pregnancy (+) is about 8 kg. The patient routinely checks her womb with an obstetrician and regularly takes medication during her pregnancy (folic acid tablets and added blood). The patient had a previous history of the lump with a diagnosis of fibroadenoma, which had been operated on in 2018, the patient's age at menarche was 11 years. There was no history of contraceptive use, diabetes mellitus, and hypertension.



Figure 1. Clinical photo of the patient.

Physical examination was carried out with blood pressure 125/75 mmHg, pulse 80x/minute, respiratory rate 20x/minute, and temperature 36.8°C. On examination of the location status from the inspection of the right breast, postoperative scars were found, with no erythema, nodules, skin dimple, nipple, and ulceration. On palpation, multiple palpable nodules number 3; 1 nodule in the superolateral quadrant measuring 3x3x2 cm, well-defined, regular

edges, mobile, painful; 1 nodule in the inferolateral quadrant, size 2x1x1 cm, well-defined, regular margins, mobile, painful; 1 nodule in the inferolateral, 1x1x1 cm, well-defined, regular margins, mobile, painful. There was no abnormality in the left breast. The patient underwent a mammary examination and ultrasound at the previous hospital. A mass image with partial calcification was obtained (BIRADS 3).

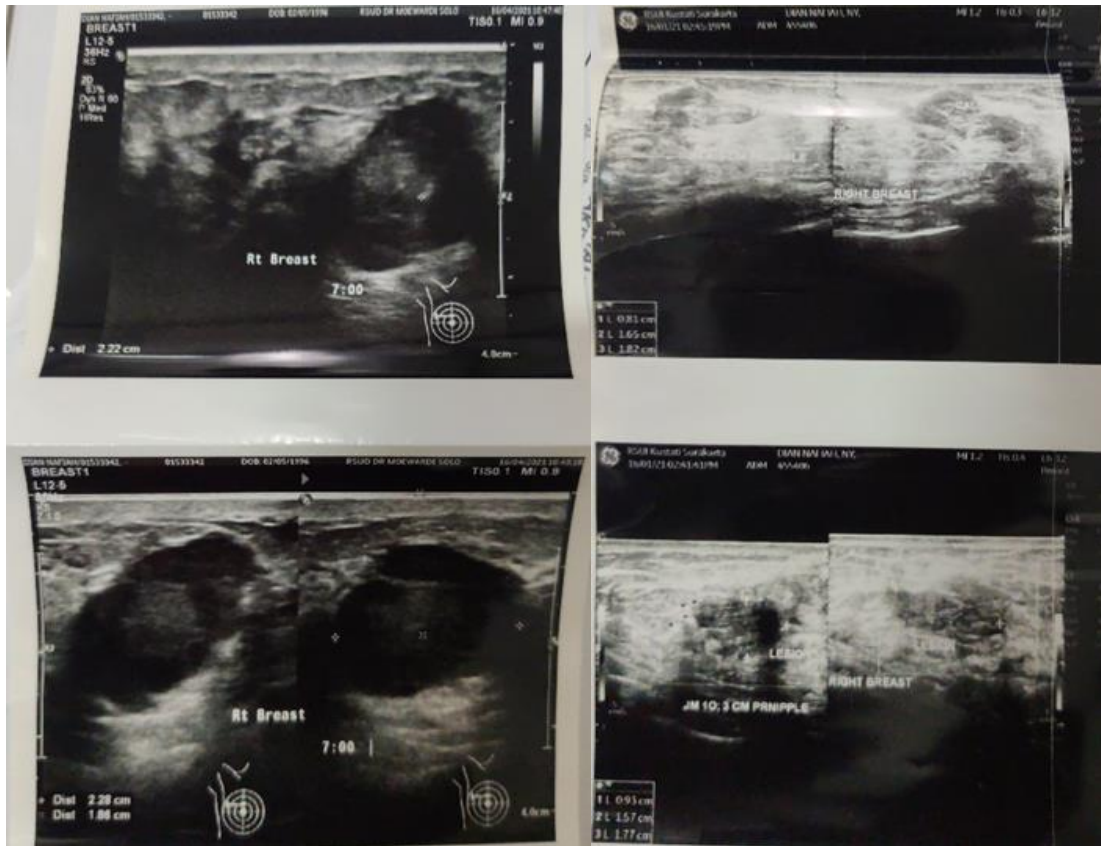


Figure 2. Ultrasound examination results

A fine-needle aspiration biopsy was performed (FNAB), and obtained an ultrasound-guided macroscopic picture of the FNAB preparation. The needle seemed to enter the lesion, and 2 slides were made. On microscopic examination, epithelial cells were found in clusters and pleomorphic cells, cytoplasm background erythrocytes, lymphocytes, and PMN leukocytes. Conclusion PA based on FNAB Right breast lump found atypical cells suspicious for malignancy.

The patient was diagnosed with mammae dextra tumor suspected of malignant cT2N1Mx with G1P0A0

26 weeks gestation. The patient was planned for an excision biopsy under local anesthesia. The incision was made in the right mamma superolateral region along 4 cm. At this location, two masses size 3x2x2 cm and 3x3x2cm, were found. Then an incision was made in the inferolateral region of the mammary for 3 cm. The mass was 2x2x2 cm (Figure 4). The results of the mass excision were sent to the anatomic pathology laboratory for histopathological examination of the tissue. The results of the histopathological examination concluded lactating adenoma.



Figure 3. Excision biopsy procedure

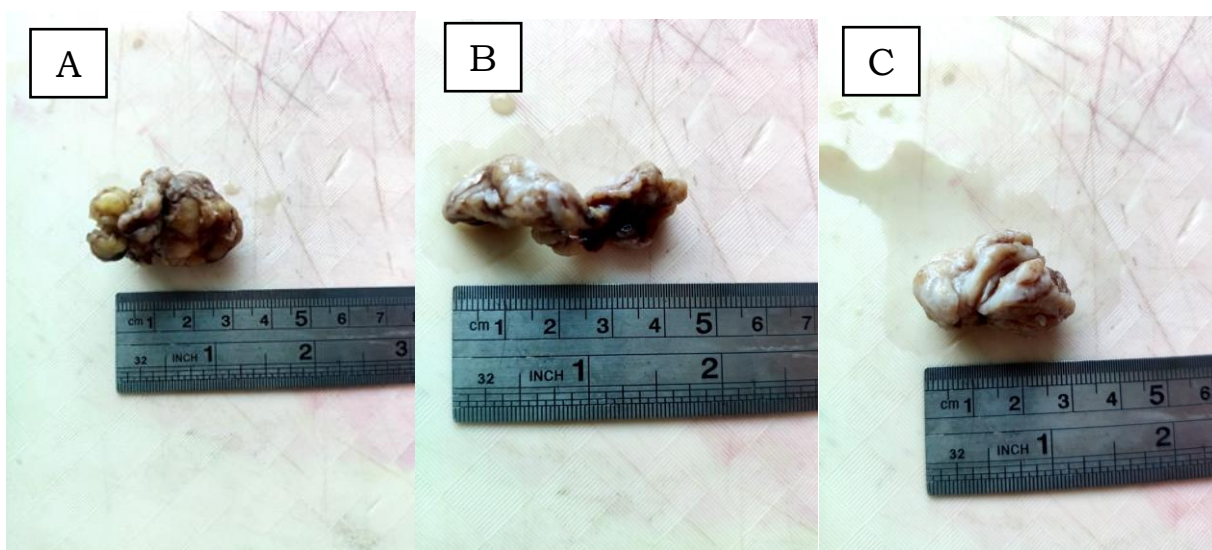


Figure 4. Two masses were found in the left mammary region measuring 3x2x2 (A) cm and 3x3x2cm (B). In the right mammary, the mass size is 2x2x2 cm (C).

3. Discussion

Palpable breast masses are quite common during pregnancy and lactation due to hormone-induced changes and enlargement of the breasts, making the physical and radiological examination quite challenging for the attending physician. Most palpable lumps are benign and associated with fibroadenomas or cysts, which are no different from the same condition in nonpregnant-lactating patients. Lesions specific to pregnancy and lactation include LA, galactocele, and mastitis with abscess. About 3% of breast cancers are diagnosed during pregnancy.¹

The patient, in this case, was a 24-year-old woman with her first pregnancy who came with complaints of a lump in her right breast and felt it was getting bigger. A lactating adenoma is a rare palpable breast lesion that occurs late in pregnancy or the lactation period and is commonly found in young primiparous women in the second or third decade of life. Although the condition is benign, occasionally, a core biopsy is required to rule out malignancy. Multiple lumps, pain, and clear fluid are coming out of the right nipple. Clinically, it presents as a firm, painless, mobile mass that usually regresses spontaneously after the

lactation period. It has been suggested that lactating adenoma is a variant of lobular hyperplasia, fibroadenoma, or tubular adenoma, which has undergone hormonal influences during lactation.^{6,7}

A lactating adenoma is a benign epithelial lesion of the breast that usually occurs in late pregnancy and during the lactation period.⁸⁻¹⁰ The origin of lactating adenoma is still unclear, but several hypotheses have been proposed in several studies. Some studies have reported that lactating adenomas arise from changes in fibroadenoma, tubular adenoma, or lobular hyperplasia, while others have suggested that lactating adenomas arise *de novo* in hormonal environments such as pregnancy and lactation. Lactating adenomas are usually well-defined masses that grow slowly. However, in very rare cases with rapid growth, they can become giant masses and need to be distinguished from breast cancer or phyllodes tumors.¹¹

On initial ultrasound examination, a partially calcified mass was found (BIRADS 3). Ultrasound images of lactating adenomas may mimic malignancy, although the typical features favor a benign mass. A lactating adenoma is a well-defined solid, ovoid, or macro lobular mass, 1–4 cm in diameter, with a long axis parallel to the chest wall. The typical lesion has a homogeneous, hypoechoic appearance with posterior acoustic enhancement. Atypical lesions may have echo texture, indistinct or irregular edges with posterior acoustic shadow, and are difficult to distinguish from malignant masses. Bleeding and necrosis are not prominent features of a lactating adenoma. Only 5% showed histologic evidence of infarction, and it was the result of a rapidly expanding mass reaching a sizeable size.^{6,12}

Ultrasonographic evaluation is the first step in assessing the appearance of the lesion and shows characteristic benign features such as smooth lobules, well-defined borders, or pseudo capsules exogenic. Atypical features such as irregular, ill-defined or angular borders with posterior acoustic shadow are associated with malignancy. On mammograms, lactating adenomas are often seen as well-defined

masses without calcification.^{13,14}

The breast imaging-reporting and data system (BI-RADS) is a classification system proposed by the American College of Radiology (ACR) in 1986, with the original report released in 1993. The BI-RADS approach to mammography begins with efficiency and cost-effective categorization for mammograms.⁴ The BI-RADS Guidelines also outline templates for universalizing mammography reports. The structure of the mammography report suggested by BI-RADS includes the following sections: breast density, imaging findings (using the appropriate lexicon), final assessment, and management. The final assessment includes a BI-RADS categorization score of 0 to 6.² In the patient, a mass was found with the classification BIRADS-3BI-RADS 3 may be benign and should shorten the follow-up interval to determine stability. The risk of malignancy is below 2%. There is a very strict classification to qualify the findings in BI-RADS category 3: a mass that is not palpable and confined to the initial mammogram; focal asymmetry, which becomes less dense on a spot compression image, or a group classification of solitary punctuate any findings other than this cannot be placed in category 3.²

The patient underwent a fine needle aspiration biopsy (FNAB) and found clustered epithelial cells and pleomorphic cells, cytoplasm background erythrocyte, lymphocytes, and PMN leukocytes. It was concluded from the FNAB that the right breast lump found atypical cells suspicious of malignancy. In previous studies, changes in breast structure can make diagnosis quite difficult, and solid lesions in this particular setting require tissue sampling with ultrasound-guided percutaneous big core needle biopsy, as 3% of breast cancers are diagnosed during pregnancy or lactation.¹⁵ A newly palpable or enlarged breast mass in a pregnant or nursing patient should be investigated immediately.

Ultrasound assessment in demonstrating a malignant mass in this clinical scenario is satisfactory, and a biopsy of any mass with suspicious features is recommended to exclude malignancy. Fine needle aspiration biopsy (FNAB) can provide non-diagnostic

results as well as false-positive results secondary to proliferative changes associated with pregnancy. A core biopsy is definitive and can be done safely. Results of benign breast tissue with gestational/secretory hyperplasia with or without infarction correspond to lactating adenoma.⁸

Previous studies stated an antepartum biopsy was recommended for women with breast masses in the first or second trimester, postpartum for masses that appear in the late third trimester, and fine-needle aspiration biopsy as an alternative for masses that appear in the early third trimester. Bromocriptine, a dopamine agonist, may reduce the size of lactating adenomas but must be balanced against the patient's desire to breastfeed.¹³ Because lactating adenomas often regress spontaneously after pregnancy and lactation, and some have been treated with observation through pregnancy and postpartum as needed. Another study stated that the majority of lactating adenomas regressed spontaneously, which did not require additional treatment. If the lesion does not subside and causes severe pain, surgical management may be required.^{8,15}

4. Conclusion

There are several recommendations for the management of lactating adenoma during pregnancy. An antepartum biopsy is recommended for women with a breast mass in the first or second trimester, postpartum for masses that appear in the late third trimester, and fine-needle aspiration biopsy as an alternative for masses that appear in the early third trimester. Treatment with bromocriptine, a dopamine agonist, may be given to reduce the size of the lactating adenoma.

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