

LACTATING ADENOMA IN THE PRESENCE OF GALACTOCELES

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Background: A 22-year-old woman was referred to our department with a painless, fast growing breast mass. She noticed this mass during lactation, after giving birth to her first child. Her gynecologist palpated a large mass in the left breast, two smaller nodules in the left breast, and one small nodule in the right breast. Ultrasonography of the breasts, mammography and MRI were performed, and a tentative diagnosis of phyllodes tumor was proposed. She was subsequently referred to our centre.

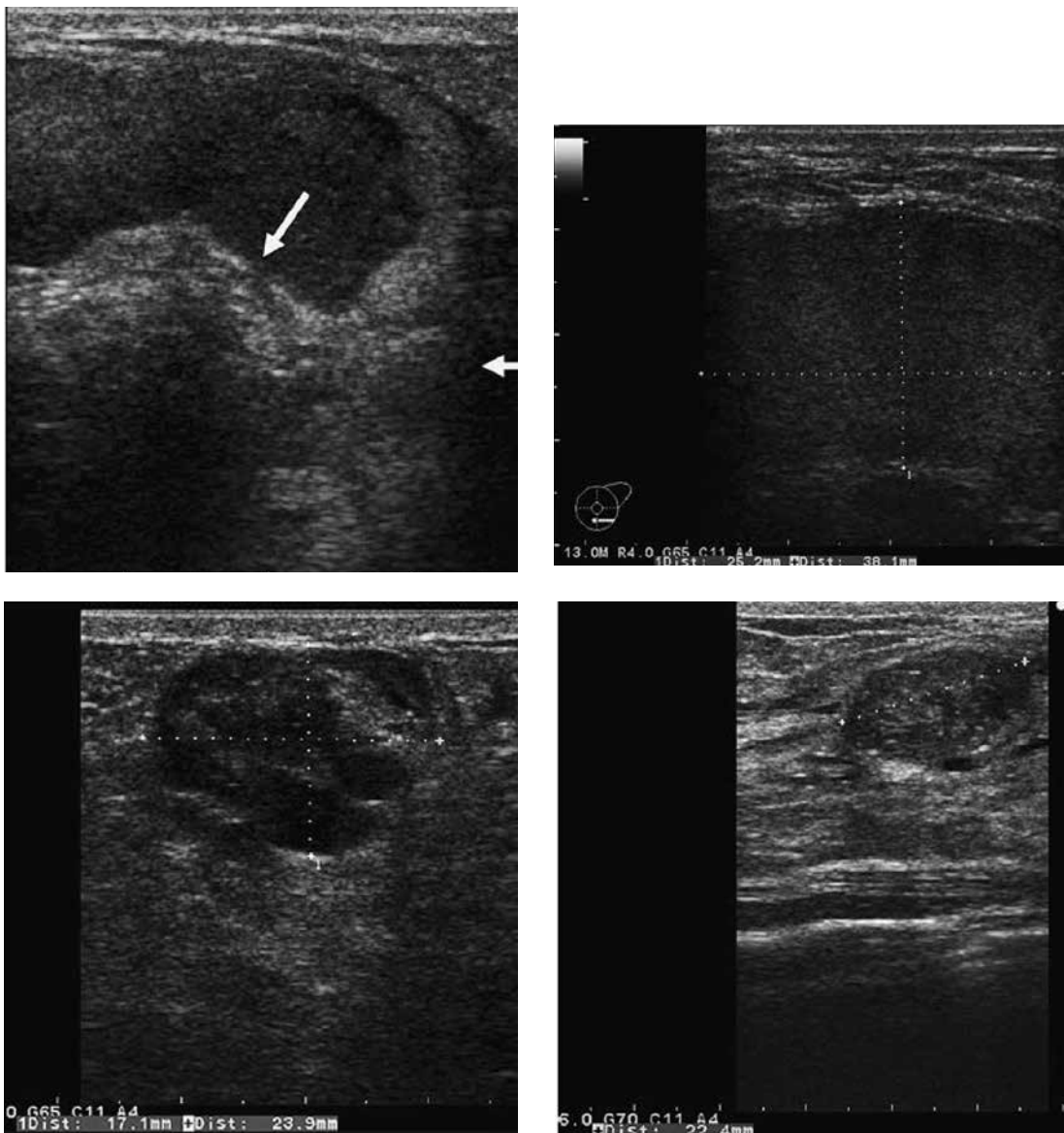


Fig.

1	2
3	4

Work-up

US image of the upper outer quadrant of the left breast (Fig. 1) demonstrates a large mass, consisting of two different components. The deep component (white arrows) has a soft tissue aspect. The superficial component consists of reflective material and is compressible, suggestive of fluid content.

US image of the left breast, 6 o' clock (Fig. 2) visualizes a large mass with reflective, compressible content, suggestive of fluid. US-guided aspiration shows milk content.

US image of the left breast, 10 o' clock (Fig. 3) shows a sharply delineated, heterogeneous nodule, with septations and some anechoic components. There is no vascularization. US-guided aspiration showed milk content.

On US image of the right breast, 9 o' clock (Fig. 4), a sharply delineated, heterogeneous nodule, with multiple internal reflections is observed. There is no vascularization. US-guided aspiration showed milk content.

Radiological diagnosis

Based on US findings two new diagnoses were proposed and confirmed with US-guided FNAC and core biopsy: the soft tissue mass in the left breast proved to be a *large lactating adenoma*, the other masses were *galactoceles*.

After cessation of lactation the lactating adenoma regressed spontaneously. The galactoceles were aspirated under US guidance.

Discussion

The hormonal changes during pregnancy and lactation induce unique physiologic changes in breast tissue. Several benign breast lesions are closely related to these changes and are unique to pregnancy and lactation. Some pre-existing lesions (e.g. fibroadenomas) undergo changes during this period. Knowledge of these expected findings is required for successful diagnosis and management.

The most common benign breast lesions encountered in lactating women are galactoceles. In fact, they most frequently occur after cessation of breast-feeding, when milk is retained in the breast. They consist of epithelium-lined cysts filled with fluid that resembles milk, with variable proportions of water and fat. At US examination, galactoceles most commonly present as complicated cysts. However, depending on their fat and water contents, they can appear like a cyst or a benign solid tumor, or contain variable fluid-fluid levels. Infection of these galactoceles is relatively common, complicating the diagnosis even more. Fine-needle aspiration easily confirms the diagnosis, and is in the same time therapeutic.

Another breast lesion specific for pregnancy and lactation is a lactating adenoma. The origin of this benign tumor remains unclear. It has been suggested that the lesion is a pre-existing lesion (fibroadenoma, tubular adenoma or lobular hyperplasia), growing and undergoing certain changes under hormonal influence. Other authors state that it is a de novo lesion. It consists of aggregates of lobules exhibiting secretory hyperplasia. Clinically, lactating adenomas present as rapidly growing masses, typically during the first two trimesters of pregnancy. Radiologically, they are usually indistinguishable from fibroadenomas. Due to the fat content of milk, they can appear heterogeneous at US. However, they may show signs of malignancy (eg posterior acoustic shadowing), often due to infarction. The key to the diagnosis is US-guided core biopsy. Lactating adenomas spontaneously regress after cessation of lactation.

Ultrasonography is by far the most appropriate radiological examination to evaluate breast lesions during pregnancy and lactation. Due to the hormonal changes, the glandular tissue increases, resulting in a high density mammography. The same problem occurs at MRI: the parenchyma appears more heterogeneous and shows rapid enhancement after injection of IV contrast material, which makes accurate diagnosis difficult. Moreover, administration of gadolinium-based contrast material during pregnancy and lactations remains controversial.

The most recent ESUR guidelines state: 'When there is a very strong indication for enhanced MR, the smallest possible dose of one of the most stable gadolinium contrast agents may be given to the pregnant female'. According to these guidelines, breast feeding should be ceased for 24 hours after the administration of high risk contrast agents.

In conclusion, the radiological evaluation of benign breast masses during pregnancy and lactation requires a knowledge of the normal physiological changes in breast tissue. Ultrasound, eventually combined with US-guided FNAC or core biopsy, is in most cases sufficient to obtain a diagnosis. In the presented patient, unnecessary mammography and MRI delayed diagnosis and treatment.

Bibliography

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