destruens is a locally invasive (myometrium) manifestation of complete HM that represents 13% of cases of GTD. Two percent of complete HM cases are described as choriocarcinoma, which is locally invasive and potentially metastasizing. These three entities produce peculiarly high levels of β-hCG, while placental site trophoblastic tumor causes a rise in human placental lactogen levels, and less elevated β-hCG levels[3,4]. Clinical assessment is difficult early in the course of the disease, as few clinical characteristics are present to distinguish it from a normal pregnancy.

Pelvic MRI is often used as a problem-solving tool in equivocal or complicated cases of GTD, especially in the first trimester, or to assess the degree of myometrial invasion and surrounding tissues[2,5]. Early manifestations appear as a soft tissue cystic mass with high T2 signal intensity[6]. In the second trimester these lesions tend to distend the endometrium giving a "cluster of grapes appearance". Typically HMs are similar or slightly higher in T1 signal intensity than the adjacent myometrium. Contrast-enhanced MRI show areas of focal enhancement that relate to the amount of active trophoblastic tissue and also to β-hCG levels[7]. Marked early enhancement indicates active disease in the form of viable trophoblastic tissue.

In the setting of GTD, identification of myometrial invasion is crucial for diagnosis and staging. Uterine tumors associated with high serum β-hCG have a high incidence of myometrial contractions[8]. Myometrial contractions are seen as a bulge of the myometrial wall usually along with a region of low T2 signal intensity in the myometrium. They are transient and tend to disappear on subsequent data acquisitions[9], as observed in our case. In the setting of endometrial tumor, radiologists should be aware of this phenomenon to avoid over-diagnosis and over-staging by misdiagnosing uterine contraction with myometrial extension or invasion.

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http://dx.doi.org/10.1590/0100-3984.2015.0057

Leiomyoma of the breast: an uncommon tumor

Dear Editor,

A 59-year-old female patient, with no significant history, was referred by a general practitioner to our radiology clinic for routine mammography. The patient had no clinical complaints, and the physical examination revealed a painless, mobile and well-defined nodule. She underwent high-resolution mammography, which identified a dense, well-defined oval nodule, located in the lower outer quadrant of the left breast (at 4 o-clock), measuring 5.5 × 3.0 cm (Figure 1). Ultrasound examination showed a well-defined oval nodule, parallel to the skin, that was hypoechoic, with no detectable Doppler flow, located in the lower outer quadrant of the left breast, measuring 3.5 × 1.7 × 3.5 cm (Figure 2). The patient underwent ultrasound-guided percutaneous core needle biopsy, and the material collected was sent for pathological study, which showed smooth muscle tumor of a benign character. In the immunohistochemical analysis, the lesion tested positive for smooth muscle actin, positive for vimentin, and negative for S100 protein, confirming the diagnosis of leiomyoma.

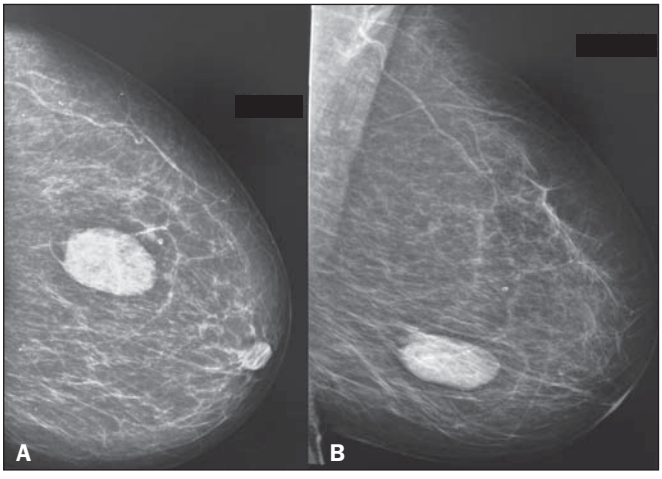

Figure 1. In **A**, high-resolution mammogram in left craniocaudal view, and **B**, high-resolution mammogram in left mediolateral oblique view, both showing a dense nodule with lobulated contours and well-defined borders, located in the lower outer quadrant of the left breast.

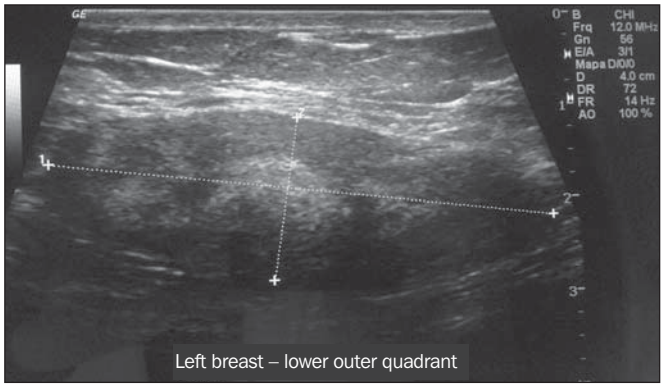

Figure 2. Ultrasound examination of the left breast showing a hypoechoic oval nodule with lobulated margins and well-defined borders, located in the lower outer quadrant of the left breast.

Leiomyoma is a benign tumor composed of smooth muscle tissue and is considered one of the most common mesenchymal neoplasms in the gastrointestinal tract and uterus[1]. Leiomyoma of the breast originates from the stroma of the gland and is extremely rare[2]. Mammography and ultrasound studies are commonly used as screening tools. However, the histopathological evaluation is the definitive diagnostic method. The differential diagnoses include carcinoma, sarcoma, benign tumors and tumor-like conditions[3–6]. The treatment consists of surgical excision of the lesion, and recurrence is unusual[7].

Smooth muscle tumors are uncommon, especially in the mammary gland. Such tumors account for less than 1% of all breast neoplasms. Deep parenchymal lesions are extremely rare and seem to affect only women. Leiomyomas affect women from 30 to 60 years of age, the mean age being 47.6 years[8]. They often occur near the nipple-areola complex, because of the abundance of smooth muscle cells in that area[9]. Smooth muscle is a component that can be present in other lesions, such as fibroadenomas and hamartomas. Leiomyomas located in the parenchyma (as in the case reported here) are circumscribed and 1.0–14.0 cm in diameter[1,2].

There are no radiological criteria for making the diagnosis with certainty, histopathological and immunohistochemical studies of the lesion being necessary in order to make the definitive diagnosis[7–10]. The histopathological differential diagnosis is established with fibroadenoma, phyllodes tumor, adenomyoepithelioma, and leiomyosarcoma of the breast. On histopathology, leiomyosarcoma of the breast shows pronounced cell atypia, atypical mitosis, vascular invasion, and necrosis[11]. Although patients are typically asymptomatic, there can be pruritus, increased breast volume, pain, and hardening of the nipple or nodule[2].

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http://dx.doi.org/10.1590/0100-3984.2014.0136

Breast cancer with splenic metastasis in a male patient

Dear Editor,

Here, we report the case of a 53-year-old male patient who was admitted to the Hospital Alemão Oswaldo Cruz in 2014 with a three-month history of intense, progressively worsening lumbosacral pain. Computed tomography (CT) showed bone lesions in the spine and pelvis, consistent with secondary involvement. We performed a CT-guided pelvic biopsy, which revealed metastatic adenocarcinoma. In an immunohistochemical study, the biopsy sample tested positive for estrogen and progesterone receptors, indicating that the primary site was in the breast.

The patient reported having detected a hard, palpable lump, measuring 2.0 cm, in the right breast, three years prior. Ultrasound showed a solid, hypoechoic, spiculated nodule in the retroareolar region, adjacent to the papilla (Figure 1A), classified as BI-RADS category 5[1], a core biopsy of which showed invasive carcinoma of no special type (invasive ductal carcinoma), as depicted in Figure 1B, showing positivity for hormone receptors and negativity for HER2.

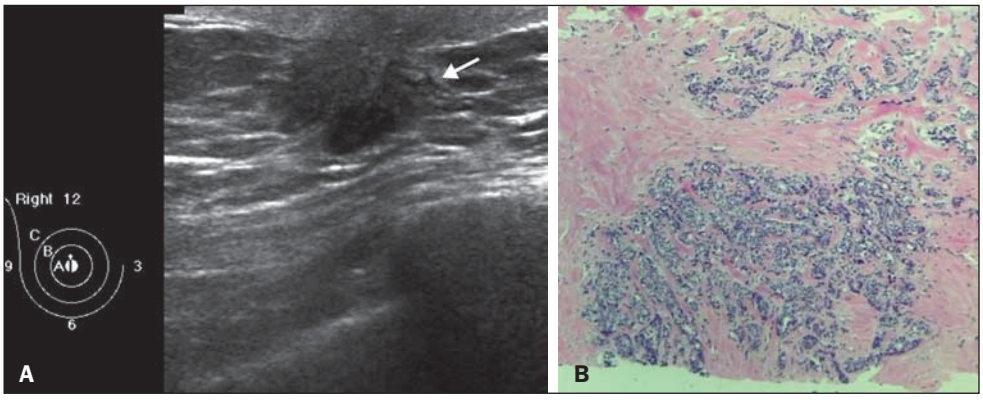

Figure 1. A: Ultrasound showing a solid, hypoechoic, irregular spiculated nodule, adjacent to the papilla of the right breast. **B:** Right breast biopsy showing massive infiltration by grade III invasive carcinoma of no special type. Hematoxylin and eosin staining.