Medical Ultrasonography
2011, Vol. 13, no. 1, 85-87

Small part tumors in a 37-year old woman

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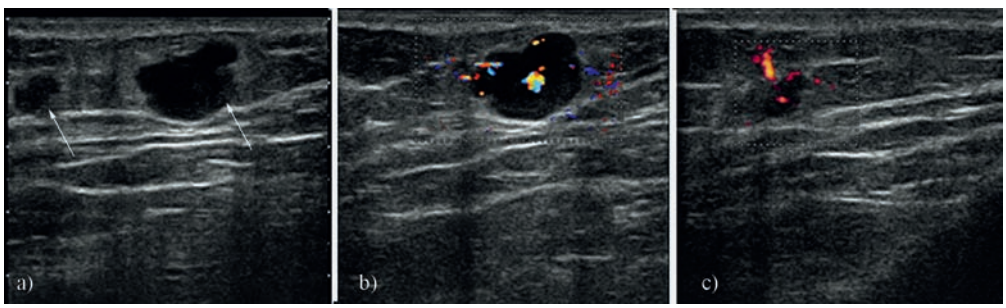


Fig 1. Ultrasound examination revealed a) extrem hypoechoic masses with acoustic enhancement (arrows), one of them lobulated, b) with hypervascularization at color Doppler and c) power Doppler ultrasound

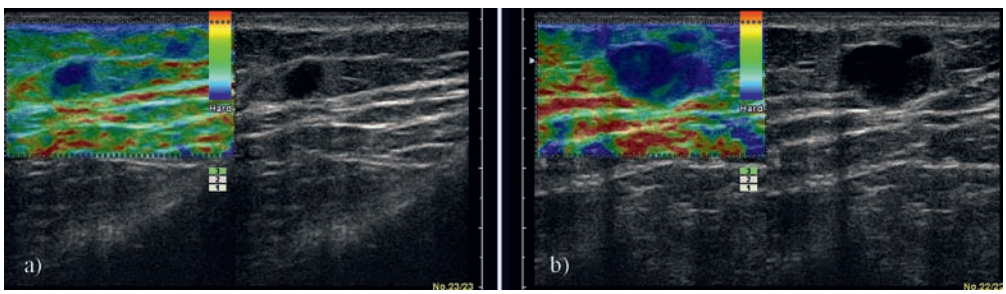


Fig 2. Sonoelastography revealed rigid lesions (a and b)

Clinical case

A 37-year old female patient was referred to our department for ultrasound of several nodules in the soft tissues of the right iliac crest region. She had been diagnosed and surgically treated for malignant melanoma of the right lumbar region one month before. The clinical, biological and ultrasound postoperative control revealed no pathological changes. At the present examination, palpation of the region revealed two small slightly tender masses. The palpation of both inguinal regions was negative, with no enlarged lymph nodes.

Ultrasonography demonstrated two fluid masses, as well as two very hypoechoic masses with acoustic enhancement, one of which was lobulated (fig 1 a). Color (fig 1b) and power Doppler (fig 1c) ultrasound revealed hypervascularity of the tumors. On sonoelastography, the lesions were stiff compared with adjacent structures (fig 2). No evidence of malignant lymph nodes was found in the inguinal region on ultrasound.

Questions:

1. What is your diagnosis?
2. Which therapeutic approach would you propose?
3. What are the particular features of the case and the differential diagnosis?

Received Accepted
Med Ultrason
2011, Vol. 13, No 1, 85-87
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Answer QUIZ vol 12 no.4

Tumor in the lesser sac

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Answers

1. What is the most likely diagnosis?

The sonographic diagnosis is of gastric stromal tumor (GIST), probably with malignant exophytic development.

2. What kind of development can this kind of tumors have in relation with the lumen of the digestive tract?

Gastrointestinal stromal tumors (GISTs) are a subset of gastrointestinal mesenchymal tumors. They have intramural origin, most frequently within the muscularis propria of the digestive tract. Initially, based on histological criteria, these tumors were classified as leiomyomas, leiomyosarcomas, leiomyoblastomas, schwannomas. With the progress of immunohistochemical techniques, GISTs are now defined as a distinct group of mesenchymal tumors, representing about 80% of all gastrointestinal mesenchymal tumors [1,2]. Although they arise from the gastrointestinal tract's own muscle, they are usually well-defined parenchymal masses, with ***endoluminal*** or ***exophytic*** projection [3].

3. Which segment of the digestive tract is most often involved by this pathology?

Approximately 50-70% of gastrointestinal stromal tumors occur in the stomach, 33% in the small intestine, 5-15% in the colon, and 1-5% in the esophagus. They may rarely occur, as primary tumors, outside the digestive tract, in the omentum, mesentery and retroperitoneum [1-3].

4. What ultrasound aspects can these types of tumor have? Given the sonographic aspect of our case, is the tumor more likely benign or malignant?

Endoscopic ultrasound can demonstrate the continuity of the tumor with the fourth hypoechoic layer of the gastrointestinal tract, corresponding to the muscularis propria [3,4]. Most GISTs are ***extraluminal***. If they are exophytic, subserosal, the mucosa is not affected. The tumor appears as a pseudoencapsulated mass outside the digestive tract, but next to it. It is sometimes difficult to prove the digestive origin, especially for large or malignant tumors. If it is ***intraluminal***, the tumor can invade the mucosa causing ulcerations of the mucosa. These ulcerations are objectified by ultrasound through an irregular and echogenic surface of the mucosa. The intraluminal development of the tumors leads to a faster occurrence of symptoms and therefore, the detection of the tumor when it is in an earlier stage, with better prognosis [5]. Due to their tendency to become necrotic, large tumors especially may appear as complex masses with mixed structure, both solid and fluid [1,6]. Doppler examination can detect a peripheral hypervascularization and central avascular zones [4].

In terms of histology, although there is no universally accepted standard, the most widely accepted classification of GISTs is based on the number of mitoses per field, classifying them into benign and malign (low-grade, medium-grade and high-grade) [1,3]. The benign-malignant differentiation is difficult; especially since some small tumors and some tumors that seem histologically benign, may have a later aggressive clinical evolution. This is why some authors consider that all GISTs should initially be classified as malignant tumors and then, gradually divided into low, moderate or high grade malignant tumors, according to their characteristics [7]. In terms of ultrasound, benignity is suggested by the small size of the tumor (less than 2 cm in diameter), the gastric location and the absence of signs of invasion. Malignancy is suggested by the large size of a mass (over 5 cm), tumor necrosis, signs of invasion, presence of metastases (mainly in the liver and peritoneum) and tumor rupture [1,2,7,8]. In our case, the large size of the mass and the central necrosis, suggested a malignant lesion. The histopathological diagnosis was that of gastric leiomyosarcoma.

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Erratum

Correction to "**Ileal neuroendocrine tumor- ultrasonographic and capsule endoscopy appearance. Med Ultrason 2010; 12:** 245-248.

The authors have been made aware of the error as concerning the corresponding author. The corresponding author of the paper is Prof. Dr. Dan D. Dumitraşcu, 2nd Medical Department,2-4 Clinicilor str, 400006, Cluj-Napoca, Romania, email: ddumitrascu@umfcluj.ro.