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Large cervical mass in a patient with a history of breast cancer

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Case presentation

A 77 year-old female patient with a prior history of breast cancer, treated with radical mastectomy and radiation therapy over ten years before, was admitted for oncologic follow-up. She had not presented for control in our department during the last two years. On physical examination edema of the right side of her face, accompanying a large swelling of the right anterior and lateral cervical region was noted without signs of inflammation or pain; the symptomatology had developed progressively in the last two years.

Cervical ultrasound revealed a large (approximately 6/5 cm) solid, inhomogeneous, and with small areas of calcification mass on the right side of the cervical region (fig 1). The tumor developed between the midline and the right common carotid artery and caused mass effect: the midline structures were displaced to the left. The right thyroid lobe could not be identified, whereas the left thyroid lobe was of normal size. Thrombosis of the right internal jugular vein extending upwards in the veins of the right cervical and facial region was also demonstrated (fig 2).

The CT aspects (fig 3) confirmed the ultrasound findings and also demonstrated multiple focal lung

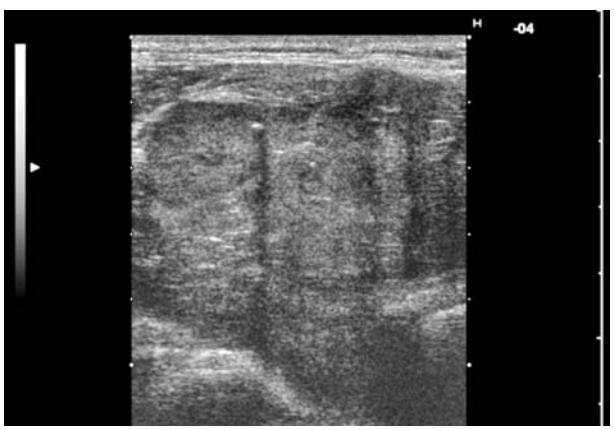


Fig 1. Gray-scale ultrasound: Transverse section of the right cervical region.

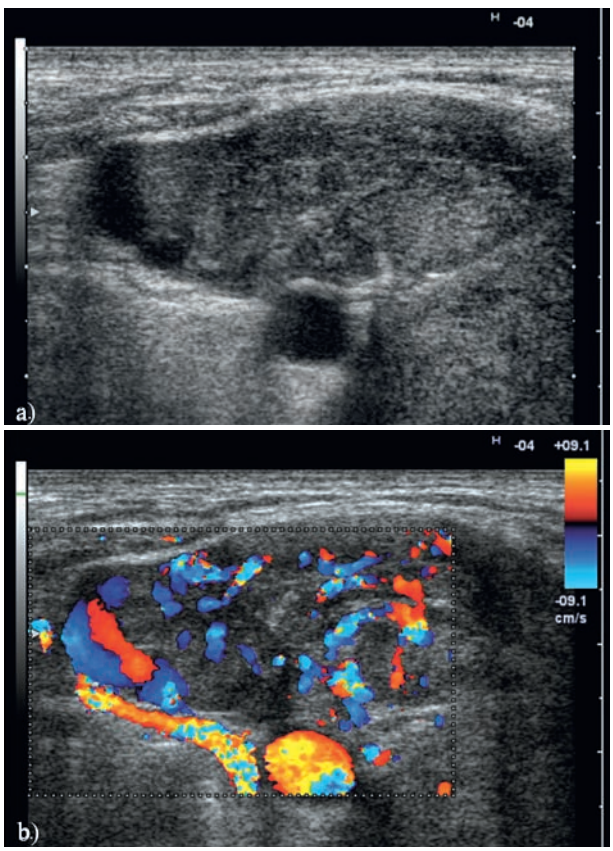


Fig 2. Transverse section of the right cervical region, crossing the cervical vessels a) gray-scale, b) color Doppler ultrasound

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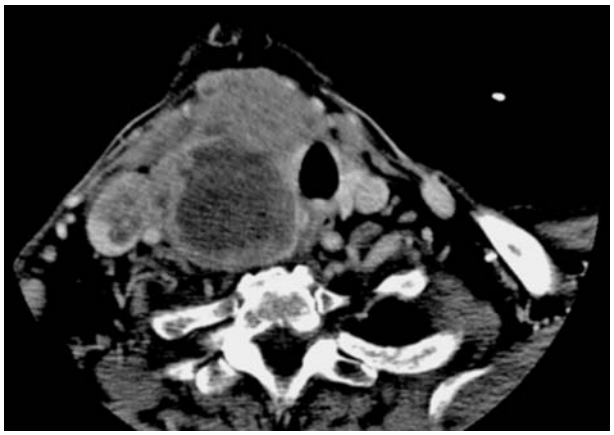


Fig 3. Contrast-enhanced CT: axial section through the inferior cervical region.

lesions, interpreted as lung metastases (not shown).

Consequently, the patient underwent a surgical exploration of the cervical region with prelevation of several tissue fragments.

Questions:

1. What is your differential diagnosis for this cervical mass?
2. What information does the color Doppler image provide regarding the thrombus in the internal jugular vein?
3. What is the most likely diagnosis, under the circumstances, and what are the particularities of the case?

Answer QUIZ vol 13 no. 1

Small part tumors in a 37-year old woman

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Answers

1. What is your diagnosis?

The complete diagnosis is malignant melanoma of the right lumbar region with „in transit" metastases.

2. Which therapeutic approach would you propose?

The proper therapeutic approach was surgical excision of the small parts tumors, with pathological exam, which confirmed the metastatic nature of the tumors.

3. What are the particular features of the case and the differential diagnosis?

The particular aspects of this case are the aggressive evolution, in a short period of time, with discrete and late clinical manifestation. From the imaging point of view, the ultrasound examination revealed many more lesions than the clinical examination. The explanation lies in the fact that in comparison with clinical examination ultrasound is more effective in the detection and diagnosis of locoregional metastatic disease. Another particularity of this case is the location of in-transit metastases.

About 20% of metastases are satellite or in-transit metastases. Cutaneous melanomas of the trunk or upper extremities more frequently develop direct distant metastases. Many initial recurrences of cutaneous melanoma are locoregional metastases in superficial soft tissues that are discovered on physical examination. Many patients with locoregional recurrence can be cured with aggressive resection. Soft-tissue metastases may be difficult to feel, however, if they are small, deep below the skin's surface, or located near a surgical scar [1,2].

Satellite and in-transit metastases were found mostly in subcutaneous tissue. They were generally round or oval in shape, sometimes lobulated, with well-defined contours and displayed low echogenicity. Approximately half were homogeneous in texture, and half were heterogeneous. Color Doppler signals were present in many

lesions, and power Doppler signals were detectable in all lesions, including the smallest (< 5 mm) [3,4]. At sonoelastography, this type of metastases, like the primary tumors, appeared rigid. Most of these lesions were not detectable clinically.

Early detection of locoregional metastases may be of great value in the treatment of patients with cutaneous melanoma. Physical examination alone has low sensitivity to small-parts metastases and frequently detects only gross nodal involvement. Ultrasound is more effective than clinical examination in the detection and diagnosis of locoregional metastatic disease [3,4].

Ultrasound represents a fast and inexpensive imaging method that should be performed regularly to detect locoregional metasteses and melanoma recurrence during routine follow-up visits.

Selected bibliography

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