Case 17084

Cutaneous lymphangitis carcinomatosis from a larynx carcinoma
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Section: Head & neck imaging
Area of Interest: Head and neck Oncology
Imaging Technique: CT
Imaging Technique: Ultrasound
Case Type: Clinical Cases
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Patient: 63 years, male

Clinical History:
A 63-year-old man with a 2 years history of larynx squamous cell carcinoma submitted to a total laryngectomy with right neck dissection and neoadjuvant chemoradiotherapy presents to the emergency room with facial and neck small cutaneous nodules with mild inflammatory signs and de novo facial and lingual oedema.

Imaging Findings:
The initial ultrasound revealed a diffuse facial and neck subcutaneous oedema with multiples cutaneous infracentimetric and hypoechoic solid nodules, highly vascularized at the Doppler examination and suspicious for metastatic skin involvement (Figure 1). On contrast-enhanced CT, a superficial head and neck soft tissue oedema was confirmed (Figure 2), associated with small enhancing solid nodules, some with hypodense necrotic centre, more numerous on the left parotid (Figure 3) and submental areas (Figure 4) in keeping with metastatic spread of known primary with probable lymphatic drainage compromise.

There were no solid lesions at the surgical bed suspected for local tumour relapse or signs of thoracic metastatic disease, neither blockage of the main venous structures of the neck.

Discussion:
The skin is an infrequent site of secondary spread, most commonly presenting as discrete nodules with lymphatic or hematogenous dissemination, usually with topographic proximity to the primary neoplasm. Although cutaneous metastases can be the first sign of malignancy, most are diagnosed in patients with a known history of malignancy and typically entails advanced disease with a poor prognosis.[1-3]

Cutaneous lymphangitis carcinomatosis (CLC) is a rare cutaneous involvement, especially for head and neck carcinomas, more frequently observed in breast cancer patients, characterized by multiple skin nodularities and secondary lymphedema caused by obstructive malignant infiltration, leading to upward the accumulation of protein-rich interstitial fluid. [2,4] It clinically presents as an erythematous and tender area simulating an infectious process, namely erysipelas and cellulitis, although CLC is not commonly associated with fever and leucocytosis. Additionally, CLC tends to evolve quickly and have no response to antibiotic therapies.[1,2]
When a diagnosis of lymphoedema is established in patients previously treated for malignancy, especially with radiotherapy, the physician must consider whether recurrence is the cause and/or lymphoedema is a complication of previous cancer treatments. The presence of skin nodularity makes the CLC diagnosis more likely.

Ultrasound is the recommended first imaging modality for skin metastases, being able to rapidly and cost-effectively characterize skin deposits and the hypoechoic edematous inflammation of the subcutaneous fat plane associated with CLC, and exclude the presence of the subcutaneous “cobblestone” appearance or fluid collections favouring the diagnosis of an infectious process. [5,6]

CT Imaging features in a patient with a known primary suggestive for CLC encompass the presence of multiple skin solid high attenuating nodules and signs of lymphatic circulation compromise noticed by oedematous thickening of lipomatous planes and consequent decrease in attenuation.

The biopsy of cutaneous infiltrative lesions is not always helpful in cancer patients with widespread metastases. However, skin biopsy can be useful for confirming a suspected primary tumour.

**Take-Home Message / Teaching Points**

Skin metastases are a rare secondary manifestation of laryngeal carcinomas;

Cutaneous metastases herald a poor prognosis and can be accompanied by secondary lymphedema caused by blockage of the lymphatics by neoplastic proliferation on the lymphatic vessels (cutaneous lymphangitis carcinomatosis);

Cutaneous lymphangitis carcinomatosis can be misinterpreted as an infectious disease;

US is the first-line imaging modality for the evaluation of suspicious skin nodules.

**Differential Diagnosis List:** Cutaneous lymphangitis carcinomatosis, Erysipelas, Lymphoma, Radiation dermatitis, Cellulitis

**Final Diagnosis:** Cutaneous lymphangitis carcinomatosis

**References:**


Description: Superficial solid hypoechoic nodule on ultrasound with a high colour Doppler signal, suspicious for a secondary deposit. Origin: Radiology Department, Hospital Beatriz Ângelo, Loures (Portugal), 2020.
**Description:** On Contrast-enhanced CT, diffuse hypodensity of the superficial soft tissues suggestive of a lymphatic obstructive process, especially evident when comparing with prior CT 6 months earlier. Notice the significant tongue enlargement. **Origin:** Radiology Department, Hospital Beatriz Ângelo, Loures (Portugal), 2020.
**Description:** Numerous solid superficial nodules compatible with secondary deposits on the face and neck. **Origin:** Radiology Department, Hospital Beatriz Ângelo, Loures (Portugal), 2020.
Description: Prominent metastatic skin involvement of the submental region. Origin: Radiology Department, Hospital Beatriz Ângelo, Loures (Portugal), 2020.