Mediastinal neuroendocrine carcinoma is one of the possible, although unusual, reported causes of SVC syndrome, with most patients showing a progressively worsening facial edema.\(^5\) A case of SVC syndrome due to mediastinal carcinoid tumor has been previously reported in a 36-year-old man who presented with facial swelling, mild dyspnea, pain in the right arm, slurring of the voice, and deviation of the tongue to the left side.\(^6\) However, development of cutaneous varicosities with multiple dilated venules on the anterior thoracic wall, as in this present report, has not been previously described to our knowledge in patients with mediastinal neuroendocrine carcinoma.

Recognition of SVC syndrome may be crucial for revealing a possible underlying malignant condition. In this regard, the dermatologist may play a decisive role because cutaneous manifestations may suggest this diagnosis when systemic symptoms are still lacking or negligible.

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Massive Subcutaneous Masses on the Back Related to $\beta_2$-Microglobulin Amyloidosis

Patients undergoing dialysis are unable to properly eliminate $\beta_2$-microglobulin, a component of major histocompatibility complex, type I, which is catabolized in the kidney. Accumulation of $\beta_2$-microglobulin favors the formation of amyloid, the deposition of which causes dialysis-related amyloidosis (DRA). Symptoms are initially osteoarticular, but progression of the disease involves systemic manifestations including cutaneous ones.

Report of a Case | A woman in her 50s presented with a history of subcutaneous masses on her back that she had noticed 8 years previously and that were producing postural discomfort. History included hepatitis C infection 23 years earlier and bilateral nephrectomy requiring treatment with dialysis for the last 31 years. After 20 years of hemodialysis, she developed bilateral carpal tunnel syndrome and flexion contractures on her fingers; hence, she was diagnosed with DRA.

On physical examination, she was found to have 3 massive nodules projecting from her back, each with an elongated shape (Figure 1.A). The largest (measuring about 31.0 × 5.5 × 4.5 cm) was located over her spine, and the others (each measuring about 27.0 × 2.5 × 1.0 cm) were located symmetrically on either side of the spine. These masses had firm consistency and were covered by normal skin. Computed tomography revealed infiltration of subcutaneous fat without evidence of calcification. Examination also revealed macroglossia and some yellowish nodules (about 2-4 mm each) on the sides of her tongue.

Skin biopsy of the central mass of her back was performed demonstrating subcutaneous deposition of amorphous eosinophilic material (Figure 2A). The deposits stained positive with Congo red, showing apple-green birefringence under polarization. Immunostaining of the amorphous material was positive for $\beta_2$-microglobulin amyloid (Figure 2B).

Discussion | Up to 65% of patients undergoing dialysis for more than 10 years develop DRA, and the prevalence increases over the years.\(^1\) Unlike other types of systemic amyloidosis, amyloid deposition in the skin or subcutaneous fat is extremely rare.\(^2-3\) However, 3 types of cutaneous manifestations related
to β₂-microglobulin amyloid deposition have been described: lichenoid plaque, hyperpigmentation, and subcutaneous masses.²⁻⁴ Lingual involvement includes yellowish nodules and macroglossia⁴; our patient had both lingual signs.

To our knowledge only 10 cases of subcutaneous nodules related to DRA have been reported.²⁻³,⁵,⁶ Most previous reports describe masses located on the buttocks; only in 2 cases did the nodules occur in other sites (popliteal and shoulder area).²,⁶ The explanation for the preferred location of the masses on the buttocks is that the chronic pressure or trauma favors the deposit of β₂-microglobulin amyloid.² The masses in the present case also presented in an area of increased pressure; the patient has severe kyphosis, and the deposit locations match the points of greatest pressure on her back.

These massive nodules grow slowly and asymptotically over the years, and so they are often reported only when the patient complains of discomfort caused by their large size.²⁻⁵ Because of the particular location of the deposits and the lack of symptoms until they become massive, this could be an underreported entity.

In 9 of 10 cases, and in the present case, there are previous osteoarticular symptoms of DRA such as carpal tunnel syndrome, bone cysts, or amyloid arthropathy from years ago.²⁻⁵ Since the masses appear at a late stage of the disease, their presence could reveal progression from the initial osteoarticular form to a systemic one,¹ pointing out the need for adjustment in the dialysis therapy to decrease the accumulation of β₂-microglobulin. This is achieved by switching from lower-flux to higher-flux biocompatible dialysis membranes and using convective therapies as online hemodiafiltration. Renal transplantation, if possible, would be a definitive solution. Patients with a history of long-term hemodialysis and symptoms of DRA involving the musculoskeletal system should undergo dermatologic examination focusing on the tongue and pressure points to identify any possible cutaneous involvement.

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