

Um Caso de Escorbuto Relacionado com COVID-19 Crítica Na Europa

A Case Report of Scurvy in Relation with Critical COVID-19 In Europe

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Resumo:

O escorbuto é nos dias de hoje uma doença pouco frequente, associa-se a um baixo estatuto socioeconómico. A pandemia de SARS-CoV-2 provocou a maior contração da economia mundial dos últimos 100 anos. Apresentamos o caso de um homem de 63 anos que recorreu ao serviço de urgência por perda de peso e lesões mucocutâneas, tais como gengivorragia, pelos em saca-rolhas e hiperqueratose folicular. A desnutrição explicava-se pela dieta pobre em calorias e nutrientes. Os seus níveis de vitamina C eram indetectáveis. O doente acabou por desenvolver COVID-19 crítica. Todos os achados classicamente associados ao escorbuto estavam presentes, bem como um contexto social e nutricional sugerindo desnutrição grave. Neste caso, o impacto da pandemia conduziu a uma dieta pobre e ao desenvolvimento de escorbuto.

Palavras-chave: Deficiência de Vitamina C; Desnutrição; Determinantes Sociais da Saúde; Escorbuto.

Abstract:

*Crusted scabies or Norwegian scabies is a severe and highly contagious clinical variant of infestation by *Sarcoptes scabiei*, which can evolve exuberantly, coursing with diffuse erythroderma, which makes etiological diagnosis difficult, especially by non-dermatologists. Thus, the authors present a case report of erythroderma in a 65-year-old woman, who developed intense pruritus associated with erythroderma for about 2 weeks, with an associated fever peak. She had a previous clinical history of psoriasis and psoriatic arthritis, with long-term use of immunosuppressants and systemic corticosteroids. Evaluated by dermatologists who, through direct examination by skin scraping and skin biopsy, confirmed the diagnosis of crusted scabies. Based on this case report, the importance of differential diagnoses of erythroderma is highlighted, especially crusted scabies, a rare dermatosis that most often affects immunocompromised, frail, institutionalized patients or patients with precarious social conditions. Scurvy is nowadays an uncommon disease. It is associated with low economic and social status. The SARS-CoV-2 pandemic*

induced the greatest global economic degrowth of the last 100 years. We present the case of a 63-years-old male patient who presented at the emergency unit with weight loss and cutaneous lesions, such as gingival bleeding, swan-neck hair, and perifollicular hyperkeratosis. He was malnourished in consequence of a calories- and nutrient-poor diet. His vitamin C levels were unmeasurable. The patient eventually developed critical COVID-19. All the classical findings of scurvy were present, as well as a dietary and social background suggestive of severe malnourishment, in which scurvy usually appears. In this case, the individual impact of the pandemic after effects led the patient to adopt a poor diet and develop scurvy.

Keywords: Malnutrition; Scurvy; Social Determinants of Health; Vitamin D Deficiency.

Introduction

Scurvy cases have been described since the Ancient Egypt. Historically, the disease gained notoriety during the Discoveries. It was common among sailors, who spent several months relying on sparse quantities of food. Political and historical consequences of the disease are well documented.¹ As a result of development, cases of scurvy have become less frequent and contemporary case reports describe less exuberant forms of the disease, although the prevalence of vitamin C deficiency is still estimated at around 5.9% in the United States,² being higher in the developing world and refugee camps.³

The SARS-CoV-2 pandemics that outbreaked in 2019 had a medical, social, and economic impact on populations worldwide. The International Monetary Fund estimated that in 2020 there was 4.4% global economic degrowth, the worst in the last 100 years.⁴ For this period, Portuguese government estimated a degrowth of 6.9%.⁵ During the first epidemic peak 60% of employers reduced the number of workers, and by the end of the third peak 38% were still reducing it.⁶

We hereby report a case of scurvy in a developed country with social security. The patient, whose social status was deeply aggravated by the pandemics, eventually developed critical COVID-19.

Case Report

A 63-years-old male patient presented at the emergency unit with asthenia, progressive weight loss during the last year

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and cutaneous lesions for the previous month. He mentioned cough for the last 3 days. He had type 2 diabetes. The patient denied family history of blood and coagulation disorders. He was unemployed and was not complying with medication as he could not afford it. His diet consisted mainly of sparse amounts of bread per day and seldom fruit. There was also a decline in function. The patient's social support network was inexistent.

The patient was ill-appearing, eupnoeic, haemodynamically stable, and febrile. He had a body-mass index of 16.2 kg/m². Most remarkably he had conjunctival and gingival bleeding (Fig. 1), violaceous round nodular lesions in both legs (Fig. 2), as wells as perifollicular hyperkeratosis and swan-neck hair (Fig. 3).



Figure 1: Gingival bleeding (a).



Figure 3: Palpable purpura (b) and swan-neck hair (c).



Figure 2: Cutaneous lesions in both legs.



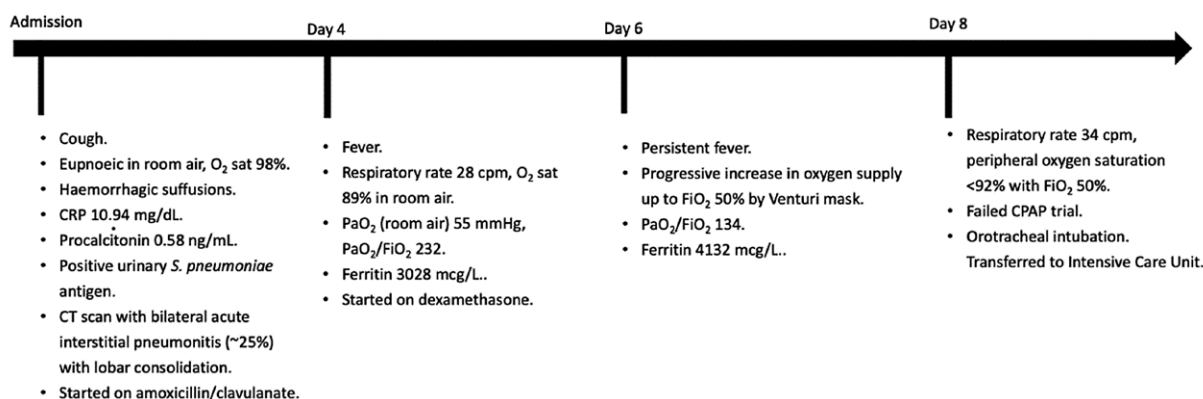


Figure 4: Timeline of events.

Laboratory evaluation revealed elevated inflammatory markers (C-reactive protein 10.94 mg/dL, ferritin 3028 mcg/L, erythrocyte sedimentation rate 20 mm/h, haptoglobin 331 mg/dL), serum creatinine 1.35 mg/dL with a proteins/creatinine urinary ratio of 1211 mg/g, A1c of 15.1%, and a microcytic and hypochromic anaemia (haemoglobin 13.0 g/dL, mean corpuscular volume 71 fL) with iron and folate deficiency (transferrin saturation 10.9%, folate 3.9 ng/mL).

A protein-chain reaction assay for SARS-CoV-2 was positive. *Streptococcus pneumoniae* urinary antigen was also positive.

A computed tomography (CT) scan revealed bilateral interstitial pneumonitis affecting approximately 25% of the lung parenchyma with an associated pneumonia in the lower left lobe. The patient was started on dexamethasone and amoxicillin/clavulanate.

The patient's evolution was adverse. He developed respiratory failure of increasing severity despite proper measures and eventually required mechanical ventilation. He was transferred to the intensive care unit (ICU) (Fig. 4).

Although the patient initially improved with the above-mentioned measures, his stay at the ICU was prolonged due to ventilation-associated pneumonia. No causative agent was identified. The patient improved with piperacillin/tazobactam plus vancomycin and was eventually extubated and transferred to an Internal Medicine ward.

Meanwhile, the results of vitamin C measurement were made available, and vitamin C was unmeasurable. There were no other water-soluble vitamin deficiencies.

The diagnosis of scurvy was established by clinical and laboratory criteria. The patient was started on ascorbic acid supplementation by enteral route at 100 mg three times daily. The introduction of enteral diet was careful because of the risk of refeeding syndrome. Nevertheless, postprandial hypoglycaemia occasionally happened.

At the time of discharge, the mucocutaneous lesions were improved but were still present. Vitamin C before discharge was 2.5 mg/L. The patient was reevaluated three

months after discharge. The mucocutaneous lesions had subsided. Vitamin C was in the normal range.

Discussion

Scurvy usually manifests with cutaneous findings of ecchymosis, mucocutaneous bleeding, opening of old wounds, corkscrew and swan-neck hair, and the pathognomonic findings of follicular hyperkeratosis and perifollicular bleeding.⁷ Lower levels of vitamin C are associated with more severe infections.⁸ Given its role in the regulation of immune system, vitamin C was proposed as a treatment for COVID-19. Despite existing some observational studies relating a positive impact on outcome,⁹ causality between vitamin C and better outcomes in patients with critical COVID-19 has yet to be established.¹⁰ Other concomitant element deficiencies are very common. The most recent cases reported less exuberant cases.¹¹

Our patient presented with all the classical findings of scurvy and had a dietary and social background suggestive of severe malnourishment, in which scurvy occasionally appears.

A standard treatment regimen for scurvy is not defined. There are reports of treatment with 300 to 1000 mg of ascorbic acid daily, both by intravenous and enteric route. Treatment with higher doses is usually preferred when major hemorrhagic complications exist. The enteric form was the only one available in our hospital. We opted for a lower dose due to concerns over precipitation and stone formation because the patient had kidney failure and his hydration status was inconsistent.

Ascorbic acid is a water-soluble vitamin like folate. Given the patient's diet and the exuberance of the clinical manifestations, we expected more water-soluble vitamin deficiencies.

Seifer et al published the first case report of scurvy during the pandemic in 2020.¹² They reported an obese patient who had changed his behavioural habits because of the confinement. Watt Soares et al published a case of scurvy related with alcohol abuse in 2021.¹³

The case presented is unique in the sense that the patient

did not have previous nutritional disorders. We believe that COVID-19 was the trigger for the poor health and nutritional status with which the patient presented.

Prior to the outbreak of SARS-CoV-2 in Europe, our patient was employed, active and, apart from his diabetes, healthy. The economic and social conditions made the patient lose his job and income, making him adopt a calories- and nutrient-poor diet. The inadequate social support saw him unresourceful.

Conclusion

Scurvy is a rare disease especially in developed countries. It is associated with malnourishment, refugee, and poor social status. The SARS-CoV-2 pandemics had a negative impact in global economics and social security unparalleled in the last 100 years. At an individual scale, our patient suffered significantly with these consequences leading him to adopt a poor diet and develop scurvy. This diagnosis implies a high clinical suspicion, though in this case manifestations were exuberant. He was brought to the hospital for a SARS-CoV-2 infection allowing scurvy diagnosis and treatment. ■

Declaração de Contribuição

MGC – Redação do artigo
 CPR – Revisão bibliográfica
 PC – Proposta do diagnóstico
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Responsabilidades Éticas

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