

### Scurvy in a patient with AIDS: case report

Escorbuto em paciente com AIDS: Relato de caso

André Luiz Maltos<sup>1</sup>, Luciana Ligia da Silva<sup>1</sup>, Aderbal Garcia Bernardes Junior<sup>1</sup>, Guilherme Vannucchi Portari<sup>1</sup> and Daniel Ferreira da Cunha<sup>1</sup>

#### ABSTRACT

We report the case of a 35-year-old homeless alcoholic and illicit drug user, with AIDS, who was admitted to the emergency unit complaining of asthenia and a weight loss of 30kg over the preceding three months. Clinical and laboratory data confirmed a diagnosis of marasmus, bacterial pneumonia, chorioretinitis caused by *Toxoplasma gondii* and oral *Candida* infection. The patient also presented loss of tongue papillae, gingival hypertrophy, perifollicular hyperkeratosis and hemorrhage, coiled, corkscrew-like hair, anemia, hypoalbuminemia, increased C-reactive protein levels and low serum vitamin C levels. The patient developed severe gastric hemorrhage, with hemodynamic instability and terminal disseminated intravascular coagulopathy.

**Keywords:** AIDS. Scurvy. Malnutrition.

#### RESUMO

Relatamos o caso de um paciente alcoólatra e usuário de drogas ilícitas com 35 anos de idade, morador de rua com AIDS, admitido na Unidade de Emergência referindo astenia e perda ponderal de trinta quilos nos últimos três meses. Dados clínicos e laboratoriais confirmaram o diagnóstico de marasmo, pneumonia, coriorretinite por *Toxoplasma gondii* e candidíase oral. Apresentava ainda: língua despapilada com hipertrofia gengival, hiperqueratose e hemorragia folicular associada a pêlos tipo saca-rolhas, anemia, hipoalbuminemia, aumento dos níveis de proteína C reativa com baixos níveis séricos de vitamina C. O paciente desenvolveu hemorragia gástrica grave, com instabilidade hemodinâmica e coagulação intravascular disseminada terminal.

**Palavras-chaves:** AIDS. Escorbuto. Desnutrição.

#### INTRODUCTION

Decreased serum vitamin C levels are quite common among hospitalized adults, particularly among alcoholics, the elderly and malnourished individuals<sup>1,2</sup>. A full-blown clinical picture of scurvy is rarely seen in adults, but there have been case reports and circumstances in which scurvy has been evident in patients with chronic kidney disease or cancer<sup>3</sup>.

In a literature search using the MEDLINE database, inserting terms such as AIDS, HIV-infection, vitamin C or ascorbic acid and scurvy, only two cases of AIDS patients with scurvy were found<sup>4,5</sup>. In the present paper, we will discuss an uncommon case of a patient with AIDS and scurvy, who had upper gastric bleeding caused by a gastric Dieulafoy lesion complicated by disseminated intravascular coagulation, sepsis and, eventually, death.

1. Department of Internal Medicine, Nutrology Discipline, Hospital de Clinicas, Universidade Federal do Triângulo Mineiro, Uberaba, MG.

**Address to:** Prof. Daniel Ferreira da Cunha. Dept<sup>o</sup> Med Interna/HC/UFTM. Rua Getúlio Guarita s/n, Abadia, 38025-440 Uberaba, MG.

Phone/Fax: 55 34 3318-5335

e-mail: dfnutro@gmail.com

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#### CASE REPORT

A 35-year-old homeless HIV-infected man who was an alcoholic and illicit drug user was admitted to the emergency room complaining of asthenia, night sweating, a dry cough and a weight loss of 30kg over the preceding three months. Over this period, his energy intake had derived mainly from *cachaça*, a strong (40%) alcoholic beverage made from sugar cane. During the clinical examination, the patient showed obvious signs of dehydration and muscle and fat wasting, with a productive cough and chest pain upon inhalation. Despite having no fever (37°C), he had tachypnea and tachycardia and presented rales in the left lung. The patient had hepatomegaly as well as enlarged lymph nodes in the groin and spleen. A neurological examination did not show any signs of meningeal irritation, but the score on the Glasgow coma scale was 9 and he presented conjugated eye movement on the upper side. Fundoscopy revealed chorioretinitis caused by *Toxoplasma gondii*. The initial treatment included intravenous hydration, antibiotics to treat pneumonia and enteral nutrition.

An assessment by the nutrition support team was requested, and it was noted that the patient was edentulous and had an oral *Candida* infection in addition to loss of tongue papillae and gingival hypertrophy. It was also noted that the skin at the lower extremities was pale and atrophic and that there was perifollicular hyperkeratosis with coiled, fragmented, corkscrew-like hair, in addition to perifollicular hemorrhage (**Figure 1**). The patient had a body mass index of 16.8kg/m<sup>2</sup> (body weight: 51kg; height: 1.74m); normochromic, normocytic anemia (hemoglobin of 9.3g/dl);



**FIGURE 1** - Areas of hemorrhage in the dermis, marked out as red ovals; areas with ingrown hair in a corkscrew pattern, marked with arrows and covered with red squares.

normal white blood count with the presence of immature cells and lymphopenia; CD4+ cell count of 93 cells/mm<sup>3</sup>; and HIV RNA copies > 500,000/ml. There was also hypoalbuminemia (serum albumin ranging from 1.5 to 2.2g/dl) and increased serum levels of C-reactive protein, in accordance with the acute phase response diagnosis. The serum ascorbic acid level was < 0.2 mg/dl (normal range: 0.4-1.0mg/dl). Based on his clinical condition and the diagnosis of marasmus, kwashiorkor and scurvy, enteral nutrition containing 90mg of ascorbic acid/1,000kcal was begun; and the patient also received a continuous IV DW 5% plus 500mg of ascorbic acid/day.

One week after hospital admission, the patient developed hematemesis and melena, and upper endoscopy revealed a severe hemorrhage caused by a gastric Dieulafoy lesion. Despite the clinical support with vasoactive drugs and packed red blood cell transfusions, the patient's condition increasingly worsened, with hemodynamic instability, acute respiratory distress syndrome and terminal disseminated intravascular coagulopathy.

## DISCUSSION

The clinical features of scurvy in this patient with AIDS included asthenia, anorexia, weight loss, gingival hypertrophy, coiled, corkscrew-like hair, and perifollicular hyperkeratosis and hemorrhage, in addition to low vitamin C serum levels. The history of alcoholism, insufficient food intake, weight loss and loss of tongue papillae in this patient suggested that the patient had a chronic low intake of vitamins, including ascorbic acid<sup>6</sup>. In the same way as often occurs among malnourished and vitamin A deficient children, who develop acute anatomical lesions such as xerophthalmia or keratomalacia during measles infection<sup>7</sup>, it is possible that a patient with chronic vitamin C deficiency might develop signs and symptoms of scurvy during an acute systemic inflammatory response, as was reported in the case of a patient who was hospitalized for treatment of metastatic renal-cell carcinoma with high-dose interleukin-2<sup>8</sup>. Moreover, case reports of scurvy often depict patients with inexplicable hypoalbuminemia<sup>4</sup>, a condition that could be attributed to an occult infection.

The gastric Dieulafoy lesion is a rare cause of upper gastrointestinal hemorrhage, and is characterized by exteriorization of a large pulsatile arterial vessel through a mucosal tear surrounded by normal mucosa<sup>9</sup>. In scurvy cases, capillary fragility leads to an inability to withstand hydrostatic pressure, which explains the tendency towards bleeding and clinical manifestations such as petechiae, ecchymosis, gum bleeding, hemarthrosis and bone hemorrhage. However, in our patient, we were unable to attribute the tendency towards gastric bleeding to the vitamin C deficiency<sup>6</sup>. It would also be of interest to perform a skin biopsy with the aim of showing the characteristic focal leukocytoclastic vasculitis, with mild hyperkeratosis and extravasation of blood into the dermis<sup>4</sup>.

From our investigations, this was the first recorded case of scurvy occurring in an adult AIDS patient with at least three opportunistic infections, including pneumonia, which is a condition in which there is often a concomitant decline in the serum vitamin C levels<sup>10</sup>. Our patient also had a full-blown acute phase response syndrome: this is caused by sepsis, cancer or acute inflammation and is also characterized by a decline in the body's antioxidant capacity<sup>3</sup>.

In conclusion, this report showed a typical case of an alcoholic, drug-addicted AIDS patient with multiple opportunistic infections,

who developed dermatological manifestations of scurvy. Physicians should be aware of this potentially treatable condition, especially in the case of patients with poor food intake and clinical manifestations of systemic acute inflammatory response associated with severe infections. Moreover, this report demands appropriate clinical research in this area, including the assessment of vitamin C deficiency among HIV-patients and the possible effect of adequate ascorbic acid supplementation in these cases.

The authors state that this case report is from the inpatient ward of the Infectious Diseases Unit at Hospital de Clinicas, Universidade Federal do Triangulo Mineiro. This patient was evaluated and monitored by the authors as requested by the infectious disease specialists responsible for the case.

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