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PSEUDOVASCULITIS IN SEPSIS BY KLEBSIELLA PNEUMONIAE, SIMULATING GRANULOMATOSIS WITH POLYANGYITIS: A CASE REPORT

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BACKGROUND

Klebsiella pneumoniae is a gram-negative bacterium, responsible for hospital and community infections. Infection usually happens due to a drop in immune defenses. Its high virulence implies in clinical manifestations, such as pneumonia, endocarditis, pyelonephritis, cellulitis and, when vasculitis occurs, it is usually of small vessels. The occurrence of infection by *K. pneumoniae* as pseudovasculitis is a rare manifestation. The purpose of this report is to describe a toe necrosis, associated with pulmonary micronodules, initially simulating granulomatosis with polyangiitis, whose diagnostic investigation proved to be a pseudovasculitis associated with *K. pneumoniae* infection.

CASE REPORT

A 35-year-old female patient reported a history of fever, arthralgia, myalgia, unquantified weight loss and productive cough, with evolution over two months. On admission in September 2019, she presented with malaise, fever (38.9 °C), tachycardia (110 bpm), hypotension (87 × 60 mmHg), chills and dyspnea. She had a history of hyperthyroidism treated with propylthiouracil 14 years ago. On physical examination: ischemia of all right toes (Fig. 1A and B), productive cough and ventilatory-dependent pain. Tests showed leukocytosis, basopenia without eosinophilia, CRP (290 mg/L), ESR 1st hour (110 mm), ferritin (1695 µg/dL), p-ANCA 1:80, nuclear ANA 1:160 homogeneous and positive metaphasic plaque, anticardiolipin IgM (38.6 GPL). Normal urea, creatinine, thyroid function, urine and transthoracic echocardiogram. Thoracic tomography (CT): multiple parenchymal pulmonary nodules, some excavated in both hemithoraces suggestive of an acute process, and fragmented sternal manubrium with signs of osteomyelitis (Fig. 2). Septic condition reversed after volume replacement and antibiotic therapy (piperacillin-tazobactam and gentamicin), guided by cultures. Debridement of necrosis was performed; amputation of the 3rd and 4th distal phalanges of the right foot, and a bone fragment from the sternal manubrium was collected. *Klebsiella pneumoniae* was identified in the pair of blood cultures collected during fever; mixed flora in the culture of the sternal bone fragment, and the anatomopathology of the ischemic lesion of the toes demonstrated the absence of vasculitis. With antibiotic therapy, there was progressive clinical and laboratory improvement, normalizing infectious parameters, clearing of antibodies, complete regression of septic pulmonary nodules and important regression of ischemic areas (Fig. 1C).

Figure 1. Ischemia of toes before treatment (A and B). Image (C) shows improvement in ischemia after antibiotic therapy and amputation of the 3rd and 4th right distal phalanx.

Figure 2. Thoracic tomography with excavated lung abscesses, green arrows, fragmented sternal manubrium, yellow arrows (A and B). Thoracic tomography with resolution of the excavated nodules after antibiotic therapy (C).

CONCLUSION

Performing differential diagnosis between vasculitis and pseudovasculitic syndromes can sometimes represent a challenge in clinical practice, since, in many situations, among them the occurrence of infections, therapy follows opposite paths and is decisive in clinical outcome, as in the case reported, where treatment was based on antibiotic therapy, and immunosuppressive therapy could mean worsening of the condition and threatening the patient's life.