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CASE REPORT: PATIENTS WITH PARACOCCIDIODOMYCOSIS AND ICTERIC SYNDROME

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Abstract: Paracoccidioidomycosis is a systemic disease caused by the fungus *Paracoccidioides brasiliensis*. Its endemic area is the Brazilian countryside and its mortality rate is 1.45 per million inhabitants. This study presented 3 clinical cases of the disease in 2023, treated at the Santa Casa de Misericórdia de Passos-Mg. The patients complained of fever, cervical, axillary and abdominal pain, nausea and vomiting. Laboratory and imaging tests were carried out, but in all three cases the diagnosis was established by lymph node biopsies. One point to be highlighted in the research is that all the cases presented come from the urban area of the city of Passos-Mg, so greater attention is needed to possible changes in the epidemiological profile of the aforementioned disease.
Keywords: paracoccidioidomycosis; cholestasis; jaundice.

INTRODUCTION

Paracoccidioidomycosis, also known as South American blastomycosis, is a systemic granulomatous disease caused by the fungus *Paracoccidioides brasiliensis*, native to Latin America, with the Brazilian countryside as one of its endemic areas. Its incidence varies from 1 to 3 cases per year in endemic areas, with a mortality rate of 1.45 per million inhabitants, the highest rate observed among systemic mycoses. It affects more men than women (10:1) between the third and sixth decades of life.

The disease usually enters the respiratory tract and can have lymphatic and hematogenous dissemination. Paracoccidioidomycosis can affect lymphoid tissues associated with the mucosa and gastrointestinal tract (Peyer's patches).

This paper aims to describe three cases of associated icteric syndrome, the final diagnosis of which was attributed to paracoccidioidomycosis. The main aim is to reinforce this fungal disease as a possible differential diagnosis not only in endemic areas, showing a change in its epidemiological characteristics.

CLINICAL CASE

The study consists of a report of three cases of paracoccidioidomycosis associated with icteric syndrome diagnosed at the Santa Casa de Misericórdia de Passos over a 7-month period.

Case 1: male, 26 years old, admitted in January 2023 with jaundice, fever, painful cervical and axillary lymph node enlargement, weight loss of approximately 10 kg, 10 days of evolution. He had a previous history of pulmonary paracoccidioidomycosis and had used amphotericin for 21 days.

Laboratory tests without infectious pattern, Bt 6.7, BD 6, BI 0.7. Low CEA and CA 19.9 tumor markers.

Imaging tests: chest and neck CT scans showing adenomegaly. Abdominal CT scan showing an expansive lesion involving the common hepatic duct and choledochus, with dilation of the bile duct upstream, as well as retroperitoneal and inguinal adenomegaly. Abdominal magnetic resonance cholangiography showed a defined nodular formation involving the common hepatic duct and proximal choledochus.

Case 2: male, 19 years old, admitted in March 2023 with abdominal pain, nausea, vomiting, fever, jaundice and cervical lymph node enlargement. Previous history of drinking and smoking.

Laboratory tests showed leukocytosis and left shift, increased c-reactive protein, increased pancreatic enzymes, lipase being more than 3 times the reference value, total bilirubin 5.6, at the expense of direct bilirubin of 5.1. Low CEA and CA19.9 tumor markers.

Imaging tests: abdominal ultrasound on 26/03 showing discreet hepatomegaly, ill-defined nodule in hepatic lobe D, significant dilatation of intrahepatic bile ducts; hypodistended gallbladder with small stones inside, choledochal dilatation; enlarged pancreas, significant dilatation of the main pancreatic duct; splenomegaly; hepatic perihilar lymph node enlargement.

MRI cholangiography on March 27th showing dilatation of the intra and extra hepatic bile duct, dilated choledoch (max 14.3 mm) with abrupt reduction in its proximal portion; dilatation of the main pancreatic duct; lymph node enlargement in the hepatic hilum, adjacent to the celiac trunk, peripancreatic, periportal, retroperitoneal. Image suggestive of cholangitis in the right lobe, hypodistended vesicle with microcalcifications.

The patient showed no clinical or infectious improvement, with normalization of pancreatic enzymes and good acceptance of the diet. Even with the improvement in pancreatitis, infectious parameters remained high, as did jaundice. The decision was made to perform ERCP on March 29th. Since it was not possible to catheterize the bile duct, papillotomy was performed. A cervical lymph node biopsy was performed on the same day.

Case 3: female, 34 years old, nursing technician, resident in Passos - MG, admitted with epigastralgia, nausea, vomiting, fever and jaundice, beginning approximately 10 days ago. She had no previous comorbidities.

Laboratory tests: leukocytosis with left shift, increased c-reactive protein, total bilirubin 1.1 at the expense of direct bilirubin of 0.9. Low tumor markers. It is worth noting that direct bilirubin values rose considerably during hospitalization, at the expense of direct bilirubin.

Abdominal CT scan on admission (16/07): expansive formation in the head and body of the pancreas, dilation of the bile duct, signs of invasion of the hepatic hilum, splenic hilum and right hepatic lobe. Involving celiac trunk, common hepatic artery, left gastric artery and splenic vessels.

During hospitalization, the patient developed progressively worsening jaundice, fever and abdominal pain. Laboratory tests worsened at the same time. The decision was made to carry out an ERCP in order to clear the bile duct and remove the patient from the acute cholangitis. The ERCP was carried out on 21/07, without the possibility of catheterizing the bile duct due to non-progression.

Biliary drainage was then performed on July 28 via hepatic transpariet.

The patient progressed with partial clinical and laboratory improvement. He started coughing, wheezing and respiratory discomfort. We decided to repeat the CT scans.

Abdominal CT scan on July 31 showing focal nodular lesions with peripheral enhancement in the hepatic and peri-hilar parenchyma, with residual abscesses. Focal nodular images with peripheral enhancement in the upper abdomen, peripancreatic and periportal, without bile duct dilatation.

Chest CT scan on July 31 showing consolidation in the left upper lobe, mediastinal lymph node enlargement; slight pericardial effusion; bilateral pleural effusion of moderate volume.

Clinical condition refractory to multiple changes of antibiotics.

The case was discussed with the thoracic surgery team to assess the feasibility of draining the pleural effusion and biopsying the mediastinal lymph node, which was carried out via pleuroscopy on 08/08.

DISCUSSION

The three cases described were cases of extrahepatic cholestatic syndrome, due to extrinsic compression of the bile duct by the lymph node enlargement resulting from paracoccidioidomycosis. The lymphatic involvement of this mycosis can simulate tuberculosis, Hodgkin's disease and even neoplasms, which were suggested as differential diagnoses in the cases described. Imaging tests were important for additional findings, such as mediastinal lymph node enlargement, broadening the diagnostic possibilities.

PCM is a systemic mycosis with a high probability of infecting any organ or system. It is therefore often confused with other pathologies. Patients usually present with malaise, inappetence followed by weight loss. Fever is occasional and can be interpreted as a sign of severity. The other associated symptoms are directly related to the organs affected by the infection. Thus, lesions affecting the biliary tract can behave like cholestatic syndrome.

Cholestasis is classically subdivided into intrahepatic and extrahepatic, with the latter also known as "obstructive jaundice", related to obstruction of bile ducts outside the liver or in its hilum, while intrahepatic cholestasis results from a defect in the functioning of hepatocytes or interruption of bile flow in the intrahepatic tree.

As the infection progresses, the fungal spores reach the airways of the individual, infecting the respiratory tract and leading to areas of pneumonia. It then spreads via the lymphatic route and causes a granulomatous reaction. Patients with an effective immune response block the primary infection and the inflammatory reaction recedes. However, the fungus can remain latent for years and subsequently cause endogenous reinfection.

According to Leite (2020), the criteria for curing PCM are clinical, radiological and immunological. The signs and symptoms of the disease must be absent, lymph node enlargement improved, skin lesions healed and the initial weight loss recovered. As far as radiology is concerned, stabilization of the lung lesions is expected, when they are present in the initial picture, in 2 images with an interval of 3 months. Another parameter for cure is the drop in titers, which must be less than or equal to 1:2, in two samples taken 6 months apart after the end of treatment.

CONCLUSION

Paracoccidioidomycosis is a systemic fungal infection that has not been limited to the epidemiological patterns previously known. The number of cases not associated with rural areas and agricultural activity is increasing. Knowledge of the disease and its range of clinical presentations is essential in order to identify differential diagnoses, question protocols and consequently improve the approach to suspected cases.

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