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Actinomyces viscosus infection in a kidney–pancreas trasplanted patient☆

Infección por *Actinomyces viscosus* en trasplantado de riñón-páncreas

To the Editor,

Actinomycosis is a rare, chronic, suppurative, infectious disease caused by organisms of the genus *Actinomyces*. The most common species in humans is *Actinomyces israelii*.

We present the case of a 36-year-old patient with a history of type 1 diabetes mellitus, chronic kidney failure secondary to diabetic nephropathy and bilateral salpingectomy after a non-specific acute salpingitis. The patient had a kidney–pancreas transplant and received induction with thymoglobulin, mycophenolate, tacrolimus and prednisone, after which she had a rapid improvement in renal function, normalisation of amylase and lipase, and well-controlled blood glucose levels without insulin requirements.

Two weeks post-transplant, she developed abdominal pain and fever, and was found to have leukocytosis and raised CRP. Abdominal CT showed a peripancreatic fluid collection in relation to the pancreatic fistula; percutaneous drainage was inserted and antibiotic therapy started. As the pyrexia persisted, a number of further tests were performed: urine culture, blood culture, sputum culture, determination of CMV by PCR, chest X-ray and echocardiography, all with no abnormal findings. Repeated abdominal CT scan ruled out intra-abdominal fluid or other complications.

The fever and pain persisted, accompanied by abdominal distension, abnormal liver function tests with a dissociated cholestasis pattern and pancytopenia. Further abdominal imaging and scintigraphy tests were performed which, respectively showed distension of intestinal loops and intense uptake into bone marrow. Since patient continued to deteriorate clinically, a laparotomy was performed, finding whitish nodules scattered around the intestines and bowel loop adhesions; these were released and ileocecal bypass performed with biopsies of the intestine, liver and bone marrow.

The bone marrow and liver cultures were negative, but *Actinomyces viscosus* was isolated in an intestinal sample. Histopathology examination showed acute liver damage with necrosis consistent with a toxic-drug reaction, with no significant lesions in the bone marrow. The patient was diagnosed with intestinal actinomycosis and started on intravenous penicillin, the pyrexia resolving after one week. The penicillin was continued for one month, followed by amoxicillin for a further eleven months. The abnormal liver function tests and pancytopenia resolved after withdrawal of the remaining antibiotic therapy. Ten months after transplantation, the patient is afebrile, her general condition is good and both grafts are functioning normally.

Actinomycosis is considered an endogenous, opportunistic infection of immunocompromised patients. The change in the status of *Actinomyces* from commensal to pathogenic may be the result of mucosal damage or tissue disruption.[1,2] It mainly affects three areas: the cervicofacial, thoracic and abdominopelvic regions, with the latter accounting for approximately 20% of cases.[3] Injury to the intestinal mucosa, previous surgery, cancer, diabetes, infections and states of immunodeficiency and immunosuppression generally predispose to invasion of the gastrointestinal tract. Damage to the intestinal mucosa is necessary for the bacteria to multiply and spread, which leads to the formation of fibrous tissue masses with a “woody” consistency. Our patient had mucosal disruption related to the pancreas transplant surgery, but her previous history also included bilateral salpingitis and she

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was immunosuppressed as a result of the immunosuppressive treatment.

Abdominal actinomycosis is frequently confused with acute or malignant inflammatory diseases. Symptoms usually include abdominal pain, anorexia, asthenia, weight loss, pyrexia, deterioration in general condition, chills, diarrhoea and the appearance of irregular abdominal masses. The disease is usually indolent and patients may have symptoms from one month to two years before the definitive diagnosis.

Less than 10% of cases are diagnosed before surgery, with additional tests being of little diagnostic value. Blood count shows nonspecific findings such as anaemia, leukocytosis and elevated acute-phase reactants. Imaging studies usually only show the consequences of infection, such as obstruction. This can make a specific diagnosis impossible, but allows the dimensions and extent of the infection to be more precisely defined.[4–6] The treatment of choice is high-dose antibiotic therapy over long periods of time, which may need to be continued for up to one year. The drug of choice is penicillin at a dose of 10–20 million U/day intravenously for 4–6 weeks, followed by oral penicillin at a dose of 30 mg/kg/day or amoxicillin.[6,7] In individuals allergic to penicillin, tetracycline and erythromycin are suitable alternatives. The exact treatment regimen should be individualised according to the location of the infection, severity of the disease, and the patient's response to treatment, with clinical and radiological follow-up required to confirm that the problem is resolved.[8]

There have been very few reported cases of actinomycosis in transplanted patients. Nevertheless, it should be considered in the differential diagnosis in cases of pyrexia of unknown origin accompanied by abdominal discomfort. Antibiotic treatment in transplant patients produces results similar to those in immunocompetent patients.

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