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Nephrology

Acute Kidney Failure and Mycelian Sepsis: About A Case at Hospital Du Point "G"

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Abstract **Case Report**

Mycelial sepsis or fungal sepsis is a rare cause of acute renal failure. Candida albicans is the most frequently incriminated fungus. We report a case of acute renal failure and mycelial sepsis diagnosed in the nephrology department of the Point "G" university hospital center in Bamako, Mali, the purpose of this work of which is to describe the severity and the urgency of taking responsible for this rare pathology. It was a 30-year-old patient who was hospitalized for recently discovered kidney failure in a pregnancy of around seven months. The appearance of fever, headache and abdominal pain and the HELLP syndrome to motivate a caesarean section with a stillborn child. Faced with the persistence of fever, a blood culture was performed with evidence of candida parapsilosis, the germ responsible for mycelia sepsis. An antifungal treatment was initiated with a good clinical and biological evolution.

Keywords: Kidney failure, sepsis, mycelial and candida albicans.

INTRODUCTION

Sepsis is a common cause of acute renal failure (ARI). Mycelial sepsis or fungal sepsis is a rare cause of acute renal failure [1]. Candida albicans is the most frequently incriminated fungus [1, 2]. Immunodepression, diabetes, pregnancy and many other defects are at the origin of this mycelial bezoar. About 50 cases have been reported in the literature since 1971 [2]. We report a new case of acute renal failure and mycelial sepsis in order to describe the severity and the urgency of the management of this pathology.

OBSERVATION

This was a 30-year-old patient with no history of diabetes, arterial hypertension known for four years under treatment (Amlodipine 10mg one tablet per day). An episode of urinary tract infection during pregnancy was treated three months ago. She was hospitalized for recently discovered kidney failure, with fever, headache and abdominal pain during a pregnancy of around seven months. The history of the disease dates back to seventeen days before admission, with an unquantified fever, abdominal pain, headache, burning while urinating and anuria in a seven-month pregnancy. She had consulted in the emergency room where acute insufficiency, a HELLP syndrome complicated with arterial hypertension (HTA) had been demonstrated. Faced with the persistence of anuria, the patient underwent three dialysis sessions. And a caesarean section was performed with a stillborn female child. The clinical examination on admission to our department (nephrology department of the CHU point "G") found an altered general condition, fever at 40°, blood pressure at 100/60, edema of the lower limbs , non-fetid serous lochia, clean surgical wound, clean temporary hemodialysis catheter, anuria. The rest of the clinical examination was unremarkable apart from an abolition of the ankle reflexes. The biological examination showed biological renal insufficiency (serum creatinine at 530.6 micro-mol/L, blood sugar at 6 mmol/L, hyperleukocytosis at 15200 per cubic millimeter, ESR accelerated to more than 150 in the first hour, CRP elevated to 113 mg/L Liver function was normal Cytobacteriological examination of urine (UCUE) found leukocyturia at 21,000 per cubic millimeter, hematuria at 20,000 per cubic millimeter

with a negative culture Proteinuria was 0.12 grams/24 hours (Table 1).

Table 1: Breakdown of biological analyzes on admission

Analyzes	Results
Creatinemia	530,6 µmol /L
blood sugar	6 mmol /L
hyperleukocytosis	15200 mm3
Vs	150 at the first hour
CRP	113 mg/L.
Cytobacteriological examination of urine (ECBU)	leukocyturia 21000 mm3 Hematuria 20000 mm3 negative culture
Proteinuria	0,12 gramme/24 hour

The vaginal sample (PV) was made with detection of the Raoultella bacterium. And a treatment with Imipenem 1g per day was started. In view of the persistence of fever, a blood culture was performed. Culture on Sabouraud's medium isolated candida parapsilosis. The patient was put on fluconazole 200 mg per day intravenously for 14 days, relayed orally for one week. The evolution was good with disappearance of the inflammatory syndrome and drop in blood creatinine to 199 micro-mol/L on discharge; 98 micro-mol/L one month after this episode (Table 2).

Table 2: Breakdown of biological analyzes at discharge and after one month

Analyzes	Results
CRP	50 mg/L
VS	40 in the first hour
blood creatinine at discharge	199 µmol /L
Blood creatinine one month after discharge	98 µmol /L

DISCUSSION

The term mycelial sepsis refers to colonization of the blood by saprophytes. ARF due to fungal sepsis is rare [1, 2]. Our case is one of the first described in Bamako. Predisposing factors are: broad-spectrum antibiotic therapy, immunosuppression such as kidney transplantation and HIV infection, prematurity, pregnancy, the presence of urolithiasis and diabetes [3-5]. Pregnancy and prior antibiotic therapy are contributing factors in our patient. Other factors are responsible for this condition such as: bladder catheterization, vesicoureteral reflux and urinary stasis [6, 7]. The clinical picture is that of an upper urinary tract infection most often with ascending dissemination, nonspecific sometimes associated with urinary obstruction with or without renal insufficiency [8, 9]. In this patient, the etiology of the renal damage is twofold: the HELLP syndrome and the probable acute fungal pyelonephritis.

Biologically, blood culture on Sabouraud medium is essential for diagnosis and treatment. The mycological examination allows the identification of the fungus concerned as well as the practice of an anti-fungigram [3, 8, 9]. The most frequently described germ is candida albicans [2]. Cases of sepsis caused by Candidas parapsilosis, as in our patient, are much rarer [1]. In the literature, some cases of aspergillus have been found to be responsible for sepsis [5, 9].

The evolution is generally favorable after antifungal treatment. Antifungal treatment should be given systemically. First-line antifungal treatment is based on azole derivatives (fluconazole, itraconazole, voriconazole, etc.) because of their good tolerance and good bioavailability. It must be adapted according to the sensitivity tests [10]. Amphotericin B and caspofungin constitute second-line therapy [10]. Our patient was treated with fluconazole 200mg which gave us good satisfaction.

CONCLUSION

Mycelial sepsis on ARI is a rare condition that occurs on a debilitated ground. It is serious and constitutes a diagnostic and therapeutic emergency. Antifungal treatment should be started urgently to improve the prognosis of this potentially serious condition.

Conflict of Interest: None.

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