



Research Article

PERITONITIS BY *LECLERCIA ADECARBOXYLATA* IN A PATIENT WITH PERITONEAL DIALYSIS: ABOUT A CASE AND REVIEW OF THE LITERATURE

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ABSTRACT

Leclercia adecarboxylata is a bacteria rarely reported in literature belonging to the family of enterobacteriaceae. We report the first case in Morocco of *Leclercia adecarboxylata* peritonitis in a patient in continuous ambulatory peritoneal dialysis (CAPD).

Key words:

Leclercia adecarboxylata; Peritonitis Peritoneal dialysis; Enterobacteriaceae

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INTRODUCTION

Leclercia adecarboxylata is a rare bacterium belonging to the family of enterobacteriaceae, it is a gram negative bacillus, first described by Leclerc in 1962, rarely reported in human infections [1].

We report here the first case in Morocco of *Leclercia adecarboxylata* peritonitis in a patient with continuous ambulatory peritoneal dialysis (CAPD).

Observation

A 57 years old man known hypertensive and followed in nephrology department for chronic renal insufficiency resulting in a nephroangiosclerosis receiving continuous ambulatory peritoneal dialysis since the month 08/2016 and he was readmitted in January 2017 in the nephrology department for a cloudy dialysate fluid. The physical examination found no fever, no abdominal pain, no vomiting.

The laboratory test check-up was carried out and revealed white blood cells at 6400 cells per mm³ predominantly polynuclear neutrophils (80%) and CRP at 33 mg / L.

The cytobacteriological analysis of the peritoneal dialysis fluid was performed by visualizing a turbid aspect of the dialysate fluid (Fig 1) with white blood cells at 420 / mm³ predominantly of 76% neutrophil polymorphonuclear cells.

Gram staining from the liquid showed the presence of Gram-negative bacilli (Figure 2).



Fig. 1 Cloudy appearance of the dialysate liquid

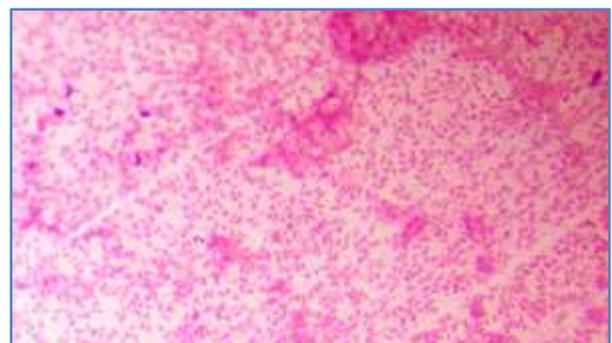


Fig 2 Direct examination after gram staining of Gram-negative bacilli

The culture after 24 hours of incubation was positive for Enterobacteriaceae, whose identification was returned in favor of 99% *Leclerciaadecarboxylata* using the automated system Phoenix 100 (Bekton Dickinson), and confirmed by the API 20 E.

The diagnosis of peritonitis was retained and the patient was treated by ceftriaxone 2g / day intraperitoneally.

The study of antibiotic susceptibility was carried out by the Mueller-Hinton agar diffusion technique with an interpretive reading according to the recommendations of the CA-SFM and EUCAST. The germ was sensitive to penicillin A, cephalosporins, aminoglycosides, ciprofloxacin, norfloxacin and trimethoprim-sulfamethoxazole.

A control puncture was performed after 4 days demonstrating a decrease of cytology 176 element / mm³ with 80% lymphocyte and a negative culture.

Treatment was continued at home after 7 days of hospitalization with good clinical and biological evolution.

DISCUSSION

Infections of the peritoneal dialysis fluid remain a frequent complication of the treatment. The rate of infectious peritonitis in our peritoneal dialysis unit is 1 episode / 40, 5 months patients [2]. The main germs of peritoneal infection belong to the category of Gram-positive bacteria, with a clear predominance of coagulase-negative Staphylococci [3,4]. Gram-negative bacteria account for approximately 25% of the isolated germs [5].

Leclerciaadecarboxylata is an ubiquitous germ, found in water, soil, food and intestines of animals. Described for the first time by Leclerc in 1962 as *Escherichia adecarboxylata* or enteric group 41 [6,7]. Rarely isolated in clinical specimens [8,9].

In humans, *Leclerciaadecarboxylata* has been described in 24 case reports since 1991, in most of them as an opportunistic polymicrobial infection in immunocompromised patients [9]. These organisms have been described as rare pathogens in endocarditis [9], catheter-related bacteremia, bacteremia and cellulitis in children suffering from leukemia [9, 10], and spontaneous bacterial peritonitis [10].

Leclerciaadecarboxylata peritonitis is rarely described, according to the literature review [10, 11, 12]. The epidemiological significance of *Leclerciaadecarboxylata* is not clear. The lack of reports of human infection may reflect that it is underestimated and not identified because the organism shares many biochemical features with *E. coli*, rather than a true infrequency of human infection [9].

The resistance of *Leclerciaadecarboxylata* to fosfomicin is another phenotypic difference with *E. coli* bacterium which is sensitive to fosfomicin [13].

In conclusion, as per review of literature ours is the first case report from Morocco of a pure culture from a case of CAPD peritonitis in an adult without other coinciding pathogens. More studies and reports are needed to determine the true pathogenic potential of this organism.

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