KOCURIA SPP AS RESPONSIBLE FOR PERITONITIS AND EXIT-SITE INFECTIONS IN PATIENTS IN A PERITONEAL DIALYSIS UNIT IN MEDELLIN, COLOMBIA

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INTRODUCTION AND AIMS

Kocuria spp. is a member of the Micrococci family, grouped in clusters and catalase positive, coagulase negative and they produce creamy or orange colonies on blood agar. It is part of the skin and oropharynx microbiote. Few cases of infections related to this family have been described, most often related to immunocompromised patients and/or patients with central venous catheters. In 2015, a total of 12 cases of peritonitis attributable to Kocuria spp in PD patients were found. In this report we present nine cases of infections (peritonitis or exit-site infection) by Kocuria spp., in patients on PD, their treatments and outcomes.

METHODS

All cases of peritonitis and exit-site infections presented between January 2010 and September 2014, in a renal unit with exclusive dedication to PD, located in Medellin, Colombia, were collected. In this period 671 adult patients were treated (at the time of this report there were 374 patients). 668 cases of infections, both peritonitis and exit-site infections, occurred.

Peritonitis was defined as the presence of cloudy fluid and a cell count > 100 cells/ul and more than 50% polymorphonuclear cells, and exit-site infection was defined as discharge, with or without erythema. Sheep blood agar was used for bacterial identification. For differentiation a test with oxidase was performed which is positive for Kocuria spp. and negative for Staphylococcus spp. The peritonitis rate in this unit between 2010 and 2014 was 0,47 episode per 24 months-method.

RESULTS

Demographic characteristics of all the patients are resumed in table 1, briefly, four of them were women, 100% had high blood pressure and 67% had diabetes mellitus. Nine cases of infection by Kocuria were found. The mean age at diagnosis of infection was 62 years and the median time between catheter placement and infection was 678 days (table 2).

In seven cases the isolated bacteria was Kocuria kristinae, followed by Kocuria rosea and Kocuria varians in one case each. Five patients had peritonitis and four presented exit-site infections. The patients received different treatment schedules and in no case the removal of the catheter was necessary and all the patients experienced complete resolution.

TABLE 1. Demographic data of patients infected by Kocuria spp. in a peritoneal dialysis unit from 2010 until septembre 2014

PATIENT NUMBER	GENDER	AGE IN YEARS AT PERITONEAL DIALYSIS	DM	HBP	CHRONIC KIDNEY DISEASE CAUSE
1.	Male	54	Yes	Yes	DM Nephropathy
2.	Male	61	Yes	Yes	DM Nephropathy
3.	Male	64	No	Yes	Nephroangioesclerosis
4.	Female	47	Yes	Yes	DM Nephropathy
5.	Male	64	No	Yes	Renal Ca
6.	Male	61	Yes	Yes	Not known
7.	Female	42	No	Yes	Ureteral lesion
8.	Female	64	Yes	Yes	DM Nephropathy
9.	Female	70	Yes	Yes	DM Nephropathy

Source: authors. Abbreviations: DM: Diabetes mellitus, HBP: High blood pressure, Ca: Cancer

TABLE 2. Data on Kocuria spp. type of infection, treatment and outcome in patients in a peritoneal renal unit between 2010 and september 2014

PATIENT NUMBER	PERITONEAL DIALYSIS (PD) MODALITY	DAYS BETWEEN PD START AND DIAGNOSIS OF INFECTION	TYPE OF INFECTION	GERM ISOLATED	TREATMENT	DAYS OF TREATMENT	OUTCOME
1.	CAPD	351	Peritonitis	Kocuria kristinae	Vancomycin+Amikacin	14	Solved
2.	CAPD	116	Peritonitis	Kocuria varians	Ceftriaxone+Amikacin	14	Solved
3.	CAPD	827	Peritonitis	Kocuria kristinae	Vancomycin+Amikacin	14	Solved
4.	APD	707	Peritonitis	Kocuria kristinae	Vancomycin+Amikacine+ Ciprofloxacin	14	Solved
5.	APD	1218	Peritonitis	Kocuria kristinae	Cephalothin	10	Solved
6.	CAPD	277	Exit-site	Kocuria kristinae	Topic gentamicin	N/A	Solved
7.	CAPD	252	Exit-site	Kocuria kristinae	Trimethoprim sulphamethoxasole	10	Solved
8.	APD	854	Exit-site	Kocuria kristinae	Cephalexin	14	Solved
9.	CAPD	1500	Exit-site	Kocuria rosea	Ciprofloxacin	14	Solved

Source: authors. Abbreviations: CAPD: Continuous ambulatory peritoneal dialysis, APD: Automatic peritoneal dialysis, N/A Non applicable.

CONCLUSIONS

Kocuria spp was isolated in only nine cultures, it is important to note that, besides peritonitis, four exit-site infections (44%) occurred. Studies using larger samples of cases of peritonitis and exit-site infections in patients with PD are necessary, in order to analyze the real frequency of infections by these organisms.

Kocuria spp. may be responsible for peritonitis in PD patients and exit-site infections. It is important that future guidelines on peritonitis and exit-site infections in PD patients standardize the best antibiotic treatment for this pathogen as well.

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