

Epidemiological profile of funguria in a university hospital in Oujda, Morocco

Adil Maleb^{1*}, Aziza Hami², Somiya Lamrabat ¹, Safae Rifai¹, Nawal Rahmani¹, Mohammed Bensalah¹, Elmostafa Benaissa³, Yassine Ben Lahlou³, Mohammed Frikh³, Mostafa Elouennass³

¹ Laboratory of Microbiology, Mohammed VI University Hospital/Faculty of Medicine and Pharmacy, Mohammed I University, Oujda, Morocco

² Laboratory of Parasitology-Mycology, Mohammed VI University Hospital/Faculty of Medicine and Pharmacy, Mohammed I University, Oujda, Morocco

³ Department of Bacteriology, Mohammed V Military Teaching Hospital/Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco

Table 1. Distribution of 109 yeasts isolated from funguria cases

Genus	Species (n, %)	Funguria in UTIs		Funguria in colonization	
		N	%	N	%
<i>Candida</i>	<i>albicans</i> (62, 56.88%)	41	61.19	21	50.00
	<i>glabrata</i> (18, 16.51%)	11	16.42	7	16.67
	<i>tropicalis</i> (12, 11.01%)	5	7.46	7	16.67
	<i>parapsilosis</i> (7, 6.42%)	5	7.46	2	4.76
	<i>lusitaniae</i> (3, 2.75%)	1	1.49	2	4.76
	<i>krusei</i> (2, 1.83%)	2	2.99	0	0.00
	<i>kefyr</i> (1, 0.92%)	0	0.00	1	2.38
<i>Saccharomyces</i>	<i>cerevisiae</i> (4, 3.67%)	2	2.99	2	4.76

Table 2. Distribution of 109 yeast isolated from funguria cases according to the recorded risk factors

Fungal species (n)	Age groups			Gender		Departments				Presence of urinary catheter	Antibiotic therapy	Health care-associated infection/colonization	Immunodepression	
	Children	Young adults	Elderly adults	Female	Male	Intensive care units	Medical	Surgical	Emergency	Outpatient	No/ Yes	No/ Yes	No/ Yes	No/ Yes
											No/ Yes	No/ Yes	No/ Yes	No/ Yes
<i>C. albicans</i> (62)	25	17	20	29	33	34	12	3	9	4	48/14	31/31	42/20	45/17
<i>C. glabrata</i> (18)	0	8	10	15	3	4	2	5	4	3	17/1	5/13	16/2	13/5
<i>C. tropicalis</i> (12)	2	8	2	5	7	6	2	0	2	2	10/2	6/6	10/2	11/1
<i>C. parapsilosis</i> (7)	3	2	2	3	4	0	3	1	3	0	5/2	4/3	6/1	5/2
<i>C. lusitaniae</i> (3)	2	0	1	1	2	2	0	1	0	0	3/0	2/1	3/0	3/0
<i>C. krusei</i> (2)	0	1	1	1	1	0	0	0	0	2	1/1	1/1	2/0	2/0
<i>C. kefyr</i> (1)	0	1	0	0	1	0	0	0	0	1	1/0	1/0	1/0	1/0
<i>S. cerevisiae</i> (4)	0	1	3	2	2	1	3	0	0	0	3/1	3/1	2/2	2/2
Total (n)	32	38	39	56	53	47	22	10	18	12	88/21	53/56	82/27	82/27

Children: ≤ 15 years old, young adults: 16-65 years old, elderly adults: ≥66 years old

Objective of this study was to establish the epidemiology of funguria within the Mohammed VI Teaching Hospital of Oujda, Morocco.

-28-month retrospective study, from March 2016 to June 2018.

- We collected 15165 urine samples.

-Urinary colonization accounted for 4.94% (n=749) of cases.

-Infections of the urinary tract accounted for 5.35% (n=811) of cases.

-Microbial isolates (n=1669) in colonizations and urinary tract infections were dominated by bacteria (93.47%, n=1560).

-Yeasts accounted for 6.53% (n=109) of the isolates.

-*C. albicans* was isolated in 56.88% (n=62) cases of funguria.

-The factors favoring funguria in our series are essentially the extreme ages of life, the stay in intensive care and the broad spectrum antibiotic therapy.

The current level of knowledge about clinical situations that favor funguria with the improvement and popularization of efficient identification techniques for yeasts other than *C. albicans* should redress the epidemiology of funguria.

This should allow learned societies to establish rules of interpretation of cytotobacteriological examination of urine in case of a funguria, as for the bacteriurias.