

=Abstract=

**The risk factors in patients with candiduria associated with candidemia**

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**Background** : The early diagnosis of candidemia is critical for the management. The candidemia is known to be associated with 10% of candiduria. But the risk factors in patients with candiduria who are associated with candidemia are not known. We analyzed the risk factors in patients with candiduria who are associated with candidemia.

**Methods** : We retrospectively reviewed 164 patients with candiduria in Yonsei Medical Center from January 1998 to December 1998. Candiduria patients were divided into two groups. Candiduria patients without candidemia (Group I, 147 patients) and candiduria patients with candidemia (Group II, 17 patients).

**Results** : 1) The mean age of the patients were 57.5 years in group I and 62.5 years in group II. There were no significant differences in the sex ratio between the two groups. 2) Central venous catheter insertion (53%, 100% in group I, II), hypotension (14%, 59% in group I, II), other associated infections (64%, 100% in group I, II), intensive care (41, 76% in group I, II) and fever (46%, 82% in group I, II) were the very significant risk factors in patients with candiduria who were associated with candidemia. 3) Urinary tract procedure (11%, 88% in group I, II), urinary catheter insertion (63%, 94% in group I, II), thrombocytopenia (17%, 41% in group I, II) and DM (8%, 24% in group I, II) were the significant risk factors of candidemia. 4) Candida colony count (cfu/mL) of urine culture was not a significant risk factor. 5) Mortality rate (27%, 59% in group I, II) was significantly high in patients with candidemia.

**Conclusion** : Central venous catheter insertion, hypotension, other associated infections, intensive care and fever were the very significant risk factors of candidemia in patients with candiduria. (Korean J Med 60:479-484, 2001)

**Key Words** : Candidiasis; Risk factors

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• : 2000 10 4  
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• : , 134, (120-140)  
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0.2-6%,  
 6.5-20%  
 1-3)  
 Student *t*-test, Chi-square  
*p*-value 0.05 가  
 (50% vs  
 19%)<sup>4)</sup>.  
 (Group  
 I)가 147 69 , 78 ,  
 (Group II) 17 11 , 6  
 가 Group I 57.5 , Group II  
 62.5 ,  
 가 Group I 41%, Group II 76%  
 가 <sup>10)</sup> (50% vs 19%)<sup>4)</sup>.  
 Group I 8%, Group II  
 24%  
 (*p*=0.04),  
 가  
 Group I, Group II 가  
 (76% vs 94%, 11% vs 12%).  
 Group I 63%,  
 1998 1 12  
 15  
 177 가 53%, Group II 94%, 100% (*p*=0.013, 0.001),  
 164 147 Group I 11%, Group II  
 (Group I) 17 88%  
 (Group II) , , , (*p*=0.01).  
 Group I 14%, Group II  
 59% , Group I 46%, Group II 82%,  
 Group I 17%, Group II 41%  
 가 1,000 cfu/mL ,  
 (*p*=0.002, 0.009,  
 0.02).  
 Group I 64%, Group II가 100% (*p*=0.002).  
 Group I 70,544.2  
 cfu/mL , Group II 74,411.8 cfu/mL  
 가

**Table 1. Risk factors in patients with candiduria who are associated with candidemia**

Risk factors	Group I No.(%)	Group II No.(%)	<i>p</i> - value*
Sex (m/f)	69/78	11/6	
Age	57.5	62.5	
Dept. of admission			
Medical service	93(63%)	10(59%)	
Surgical service	54(37%)	7(41%)	
Intensive care	60(41%)	13(76%)	0.008
Chief diagnosis			
Neurologic disorder	55(37%)	3(18%)	
Pneumonia	31(21%)	11(65%)	
Sepsis	16(11%)	6(35%)	
Heart failure	12(8%)	3(18%)	
Underlying diseases			
Cancer	24(16%)	3(18%)	
DM	12(8%)	4(24%)	0.04
GU abnormality	3(2%)	0(0%)	
Renal failure	3(2%)	0(0%)	
Drug therapy			
Antibiotics therapy	112(76%)	16(94%)	
Steroid Tx.	16(11%)	2(12%)	
Cytotoxic Tx.	7(5%)	2(12%)	
Procedures			
Urinary cath. Insertion	92(63%)	16(94%)	0.013
Central venous cath.	78(53%)	17(100%)	0.001
Urinary tract procedure	16(11%)	15(88%)	0.01
Clinical features			
UTI Syptoms	43(7%)	7(41%)	
Fever	68(46%)	14(82%)	0.009
Hypotension	20(14%)	10(59%)	0.002
Leukocytosis	69(47%)	9(52%)	
Leukopenia	6(4%)	2(12%)	
Thrombocytopenia	26(17%)	7(41%)	0.02
BUN/Cr elevation	25(17%)	5(29%)	
Colony count (cfu/mL)			
of urine culture	70,544.2	74,411.8	
Associated infections	94(64%)	17(100%)	0.002

\* *p* < 0.05

Group I 27%, Group II가 59%

가

가

가

(Table 1).

가 ,

6.5-20% 2, 3) .

가 .

Rivett <sup>5)</sup> 28 (primary candidemia)

1 (3.6%) ,

Dyess <sup>6)</sup> 83 9 (10.8%), 가 ,

Ang <sup>7)</sup> 249 26 (10.4%)

10% <sup>5)</sup> Orenstein <sup>14)</sup> (extra-corporeal shock wave lithotripsy)

17 177 9.6% ,

가

8) .

가

가

7-9) . <sup>15)</sup>

23%

가

가 <sup>16)</sup> .

가

가 <sup>17, 18)</sup> .

가 ,

가 Talluri <sup>19)</sup> DNA (polymerase chain reaction)

가

가

(pye-

lovenous reflux) 가

11, 12) Fluconazoleazole <sup>20-28)</sup> 가

가 ,

59%

27% , Ang <sup>7)</sup>

13) 50%

가

가

가

10%

: 1998 1 12

164

147 (Group I) 17

(Group II)

: 1) Group I, Group II

57.5 62.5

2)

Group I Group II

(53% vs 100%, 14% vs 59%, 64% vs 100%, 41% vs 76%, 46% vs 82%). 3)

가 Group I Group II가

(11% vs 88%, 63% vs 94%, 17% vs 41%, 8% vs 24%). 4) Group I, Group II

(cfu/mL) 가

(70,544.2 cfu/mL vs 74,411.8 cfu/mL). 5)

Group I Group II가 (27% vs 59%).

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