



# TTS 2024

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## COMPARISON OF INVASIVE PULMONER ASPERGILLOSIS BETWEEN TRANSPLANT AND NON-TRANSPLANT PATIENT

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## INTRODUCTION:

- Invasive fungal infections are a significant cause of morbidity and mortality in solid organ transplant recipients (SOTr)
- This study aims to evaluate patients with invasive pulmonary aspergillosis (IPA) among SOTr and non-transplant individuals

## METHODS:

- Patients with bronchoalveolar lavage galactomanan (BAL GM) positive between 2016 and 2023 were retrospectively assessed at Baskent University Hospital, Ankara, Turkey
- Inclusion criteria were;
  - age  $\geq 18$  years
  - at least one BAL GM positivity
  - antifungal therapy given for IPAIn case of repeated positive results, the first GM level was included



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# RESULTS:

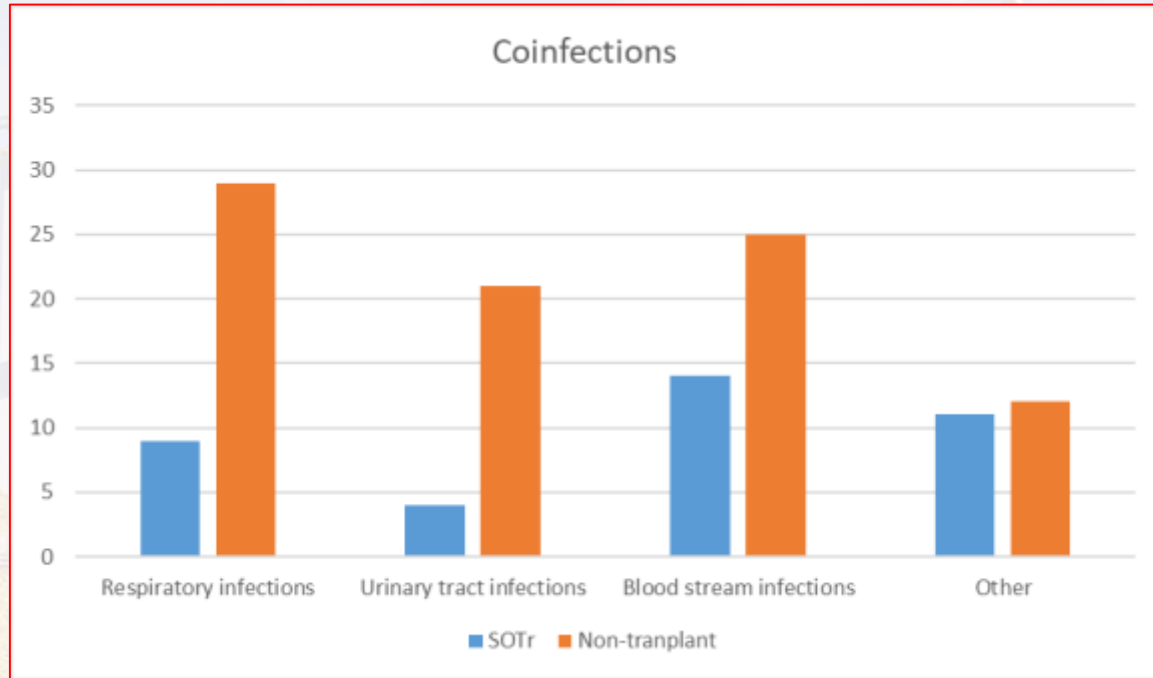
Table 1. Patients' characteristics

	All patients n=199 (%) or median (IQR)	Solid organ transplantation n=40 (%) or median (IQR)	Non-transplant group n=159 (%) or median (IQR)	p value
Male	135 (67,8)	34(85)	101(63,5)	0,009*
Age	68 (58-78)	52,5 (39-60)	72 (63-80)	<0,001
Comorbidities				
Chronic pulmonary disease	43(21.6)	7 (17.5)	36 (22.6)	0.48
Chronic kidney disease	40(20.1)	14 (35)	26 (16.4)	0.009*
Chronic liver disease	14 (7)	8 (20)	6(3.8)	<0.001*
Haematological malignancy	6 (3)	0	6 (3.8)	0.60
Solid organ malignancy	59 (29.6)	3 (7.5)	56 (35.2)	0.001*
Rheumatological disease	16 (8)	3(7.5)	13 (8.2)	0.88
Application				0,02*
Inpatient	172(86,4)	39(97,5)	133(83,6)	
Outpatient	27(13,6)	1(2,5)	26(16,4)	
Bronchoscopy indication				0,047*
Respiratory symptoms	88(44,2)	11(27,5)	77(48,4)	
Radiologic imaging	12(6)	4(10)	8(5)	
Both	99(49,7)	25(67,5)	74(46,5)	
Fever at admission	49(24,6)	12(30)	37(23,3)	0,377
Respiratory symptoms at admission	183(92)	33(82,5)	150(94,3)	0,014*
BAL GM levels	2,55 (1,43-5,86)	3.0 (1,49-6,05)	2,5 (1,41-5,79)	0,877
Chest CT	179(89,9)	39(97,5)	140(88,1)	0,084
Infiltrates or fungal lesions at chest CT	113(60,8)	29(72,5)	84(57,5)	0,086
Previous ICU stay	87(43,7)	14(35)	73(45,9)	0,214
Mold type:				0,414
Aspergillosis spp.	42(85,7)	14(93,3)	28(82,4)	
The others	7(14,3)	1(6,7)	6(17,6)	
Microbiologic findings:				
Any growth in BAL culture	163(81,9)	34(85)	129(81,1)	0,57
PMNL in BAL fluid	144(72,4)	26(65)	118(74,2)	0,244
Antibiotic usage before	151(75,9)	34(85)	117(73,6)	0,131
Coinfection	96(48,2)	27(67,5)	69(43,4)	0,006*
90-day mortality rate	90(45,2)	15(37,5)	75(47,2)	0,272

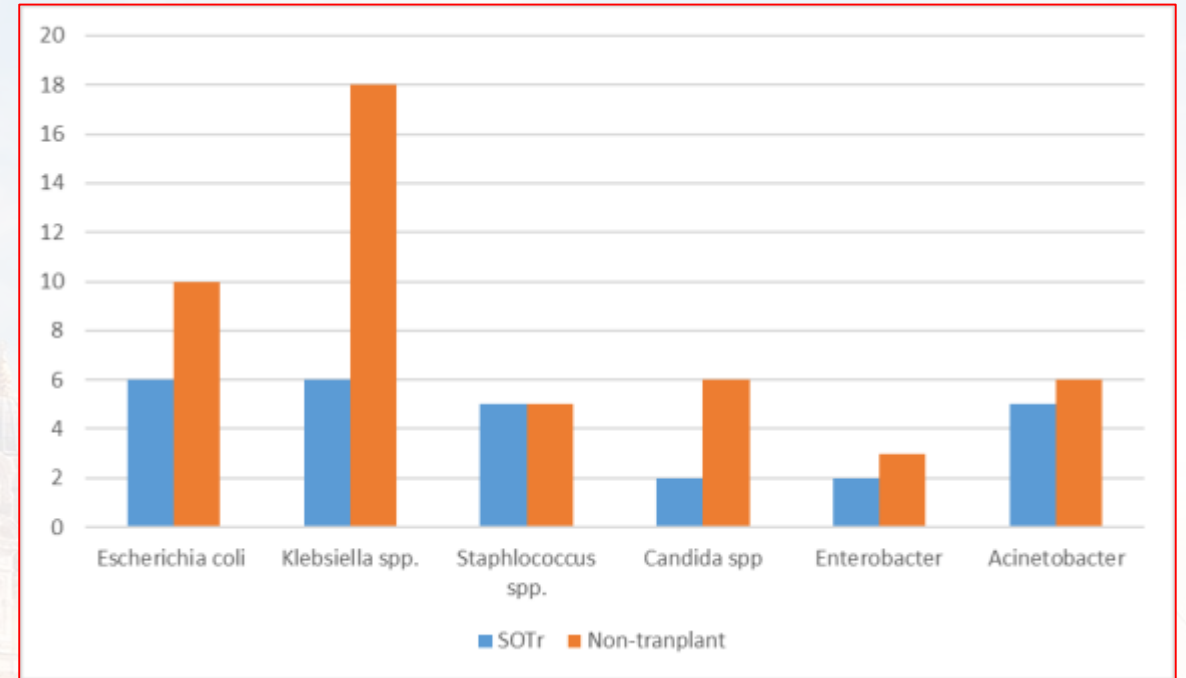
- A total of 199 patients
  - 40 (20.1%) SOTr
- In both groups, the majority
  - male (67.8%)
  - inpatients (86.4%)
- The median age was higher in the non-transplant group (72; p<0.001)
- Respiratory symptoms at admission were high in both group (92%)
- Chest CT signs were higher in SOTr
- Aspergillus spp. was the most mold type in all group (85.7%)
- Coinfections were detected in both groups
  - higher rates in SOTr (67.5%; p=0.006)



Graphic 1. Comparison of coinfections



Graphic 2. Detected Microorganisms in coinfection



- Bloodstream infections (BSIs) and respiratory tract infections were the most common coinfections in SOTr
- BSIs and urinary tract infections were most common in non-transplant
- Enterobacterales were the most common detected microorganisms in coinfections



## CONCLUSION:

- IPA occurs at an earlier age in SOTr
- Chest CT findings were higher in the SOTr group
- It is highlighted that IPA is more invasive in immunocompromised individuals
- Clinicians should be mindful of the higher rates of coinfection

*Thank you for your attention...*



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