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September 22-25
30th International Congress of The Transplantation Society

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EVALUATION OF CYTOMEGALOVIRUS PNEUMONIA IN TRANSPLANT RECIPIENTS

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INTRODUCTION:

Cytomegalovirus (CMV) pneumonia is a major cause of morbidity and mortality in solid organ transplant recipients (SOTr) and hematopoietic stem cell transplant recipients (HSCTr)

In this study, we aimed to investigate the clinical course of CMV pneumonia in transplant recipients

METHODS:

Retrospective study in SOTr and HSCTr who has been investigated CMV PCR in bronchoalveolar lavage (BAL) between 2014 and 2024

In case group;

Probable CMV pneumonia was defined

1. CMV DNA detection in BAL
2. CMV DNA detection in blood
3. given antiviral therapy for CMV

Possible CMV pneumonia

Radiological evidence of pneumonia (Infiltration, nodular density, consolidation, ground glass) and presence with CMV DNA positivity in BAL, without CMV viremia



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RESULTS:

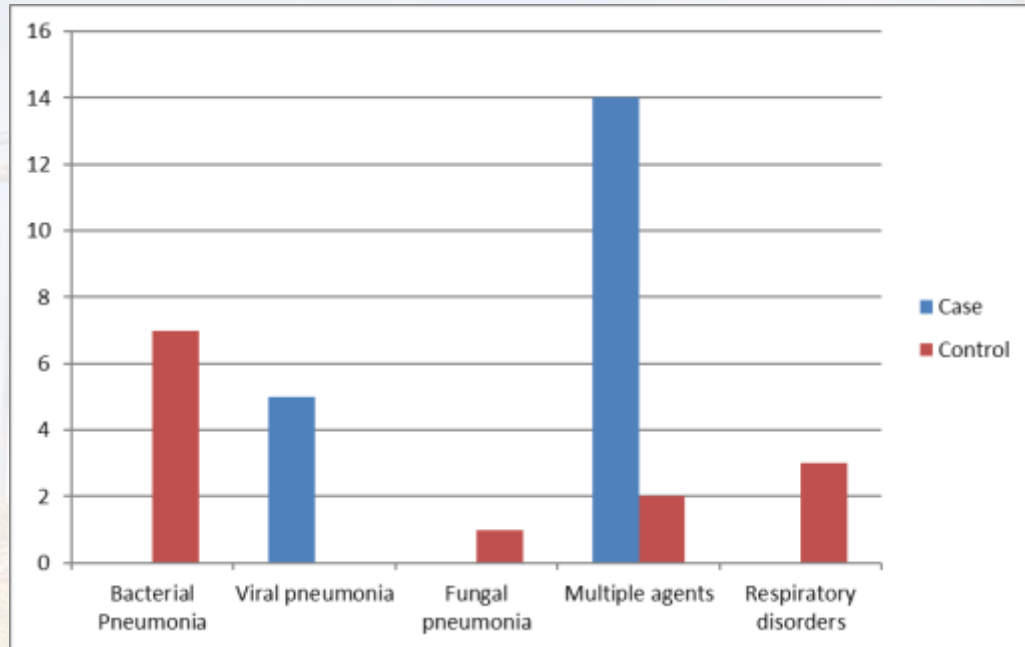
	CASE n=19 (%)or median(IQR)	CONTROL n=13 (%)or median(IQR)	p
Age	59 (47-64)	49 (32-62)	0.198
Male gender	11 (61.1)	7 (38.9)	0.82
Charlson Comorbidity index	3 (2-5)	3 (3-5)	0.9
Transplant type			0.15
Kidney	14 (73.7)	9 (69.2)	
Liver	2 (10.5)	4 (30.8)	
Hematopoietic stem cell	3 (15.8)	0	
Presence with fever	5 (23.6)	7 (53.8)	0.15
Presence with respiratory symptoms	16 (84.2)	13 (100)	0.25
Bronchoscopy indication			0.08
Respiratory symptoms	3 (15.8)	6(46.2)	
Radiological suspicion	3 (15.8)	0	
Both	13 (68.4)	7 (53.8)	
Group			<0.001
CMV negative	0	13 (100)	
Possible CMV pneumonia	6 (31.6)	0	
Probable CMV pneumonia	13 (68.4)	0	
CMV serostatus			0.20
Anti-CMV IgG positive	13 (68.4)	6 (46.2)	
Anti-CMV IgG negative	6 (31.6)	7 (53.8)	
Laboratory results			
WBC 10 ³ / μL	8.47 (5.08-13.5)	9.76 (6.0-12.4)	0.86
Plt 10 ³ / μL	99 (44-160)	209(87.5-234.5)	0.07
CRP mg/L	127 (79-202)	103 (23-268)	0.60
Lymphocyte ratio	3.08 (2.37-8.22)	7.15(2.86-13.17)	0.34
Coinfections at the same time of BAL	11 (57.9)	2 (15.4)	0.02
Rejection time before bronchoscopy			0.37
<3 months	1 (5.2)	0	
3-12 months	3 (15.8)	2 (15.4)	
>12 months	6 (31.6)	4 (30.8)	
30-day mortality	12 (63.2)	5 (38.5)	0.169

- A total of 32 patients
 - Case group: 19 BAL CMV PCR positive transplant recipients
 - Probable CMV pneumonia 68,4%
 - Control group: 13 BAL CMV PCR negative transplant recipients
- CMV IgG seropositivity was higher in case group
- Presence with fever was high in control group
- Platelet count was low in the case group
- 30-day mortality was high in CMV pneumonia group (63,2%)

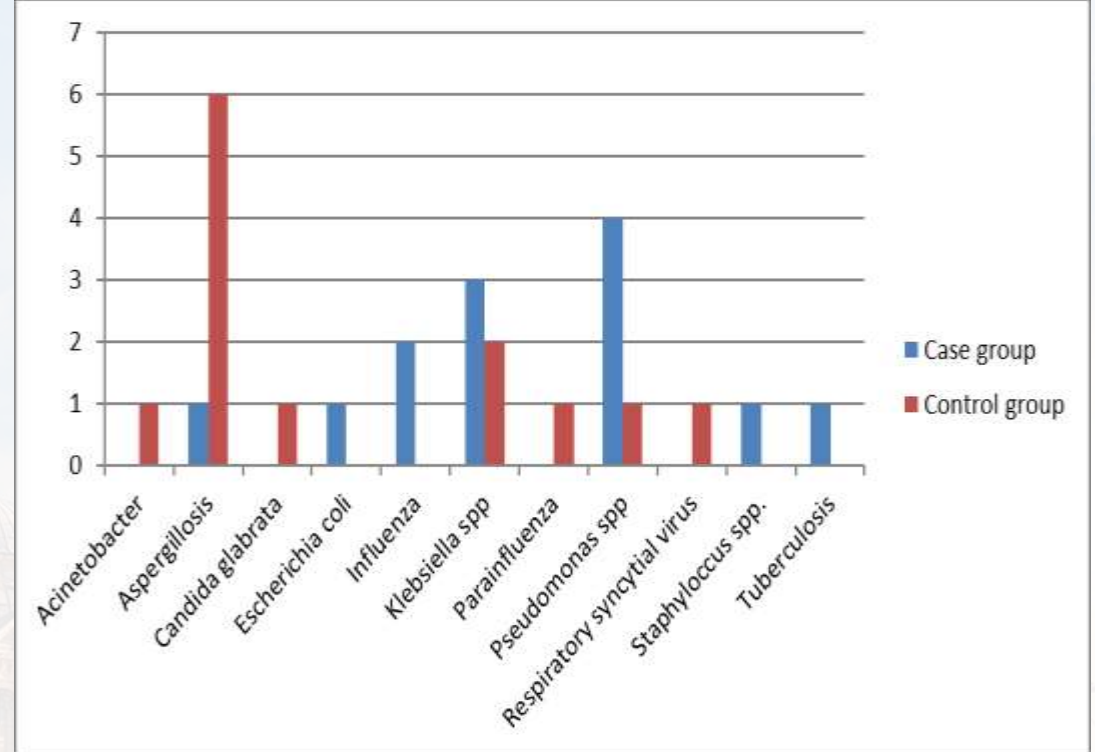


RESULTS:

Graphic1. Distribution of respiratory infections



Graphic 2. Detected microorganisms from bronchoalveolar lavage



- The coinfections were higher in the case group (57,9% to 15,4%; $p=0,02$)
- Bacterial agents were the most frequently detected microorganisms from BAL in both groups
 - Pseudomonas spp. was detected the common coinfection in case group
 - Aspergillosis was detected the common pathogen in control group



CONCLUSION:

- The mortality rate from respiratory tract infections remains high in SOTr
- Fever may be absent in the course of viral pneumonia in SOTr
- It was also significant that respiratory symptoms were less likely with CMV pneumonia
- The low platelet count was considerable in SOTr
- Coinfections were more common in SOTr because to the immunomodulator effect



Thank you for your interest



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