RESPIRATORY VIRUS INFECTIONS IN SOLID ORGAN TRANSPLANT RECIPIENTS: A SINGLE CENTER EXPERIENCE

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BACKGROUND

- Community acquired respiratory virus infections (RVI) are a major concern in solid organ transplant (SOT) recipients
- Complications include lower respiratory tract infection (LRTI), superimposed fungal and bacterial pneumonias, respiratory failure and significant morbidity and mortality.
- Data of RVI in SOT recipients, other than influenza and respiratory syncytial virus (RSV) are scarce.

METHODS

- Retrospective cohort study
- Multiplex qualitative PCR-based respiratory viral panel (RVP) samples in SOT recipients between January 2017 and December 2019
- Results from RSV/influenza rapid test not included
- Follow-up duration: One month after diagnosis.
- Objective: clinical presentation, incidence of co-infections and mortality

RESULTS

Patient characteristics (N=100)	
Male	50%
Age (mean, range)	54 [18 – 79] years
Type of transplant	Kidney – 40%
	Lung – 33%
	Liver – 9%
	Heart – 7%
	Combined – 13%

RESULTS

Type Respiratory virus	
Rhinovirus/Enterovirus (RHV/ENT)	59%
Non-SARS-CoV-2 Coronavirus	19%
Parainfluenza (PIV)	14%
Human metapneumovirus	5%
Adenovirus	2%

Symptoms on Presentation	
Cough	52%
Fever	24%
Shortness of breath	28%
Rhinorrhea	26%

Outcomes	
Inpatient	74%
ICU admission	5%
Mortality	**3%** RHV/ENT – 2% PIV-3 – 1%

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SCAN ME

RESULTS

Co-infections	
Bacterial co-infection **43 patients had a respiratory culture performed**	P. aeruginosa – 8 (18.60%)
	M. abscessus – 1 (2.32%)
	MRSA – 1 (2.32%)
	E. coli – 1 (2.32%)
	S. pneumoniae – 1 (2.32%)
CMV viremia	51 patients
CMV viremia >1000 IU/mL	2 patients

- Post-transplant onset of RVI was 41 months [0.7 – 267.7] (mean, range)
- Lymphopenia was present in 52% of patients, neutropenia in 0%
- Lung transplant patients developed LRTI in 70% of cases compared to non-lung transplant 64% (p=0.412).
- **Multivariate analysis showed patients with PIV 3 were less likely to develop LRTI (p= 0.038)**
- No proven or probable pulmonary fungal infection within 3 months after diagnosis of RVI.
- Three patients died at 4, 5 and 35 days after diagnosis of RHV/ENT, PIV-3 and RHV/ENT respectively.

CONCLUSIONS

- Most of the cases of RVI were due to RHV/ENT
- Patients with PIV 3 were less likely to develop LRTI
- Lung transplant recipients developed LRTI with similar incidence to non-lung recipients
- Mortality of 3% in study period follow up