

# Rate of Upper Gastrointestinal Motility Disorders Post Lung Transplantation

B. Yeager<sup>1</sup>, E. Minor<sup>1</sup>, M. Radlinski<sup>2</sup>, A. Podboy<sup>2</sup>

1. Department of Medicine, University of Virginia, Charlottesville, VA

2. Department of Gastroenterology & Hepatology, University of Virginia, Charlottesville, VA



## BACKGROUND

- Gastrointestinal motility disorders can lead to increased microaspiration events and are common post lung transplant
- Microaspiration of gastric contents is considered a risk factor for the development of bronchiolitis obliterans syndrome, the main cause of graft failure, late morbidity, and mortality following lung transplantation

## STUDY AIMS

- To assess the frequency of gastrointestinal motility disorders following lung transplantation as it relates to allograft rejection

## METHODS

- We conducted a retrospective chart review of patients who underwent lung transplantation within our institution between 1/1/2019 - 12/31/2021
- Clinicodemographic, radiographic, endoscopic, manometric, pH testing, pulmonary function testing, and outcome data post-transplant was obtained
- Fisher's exact 2-tailed T test was used to determine if the association between variables were significant

## RESULTS

- 75 patients underwent lung transplantation during the study period. 11 patients had evidence of allograft rejection, whereas 64 did not
- 50.0% of patients had delayed gastric emptying. 57.1% had elevated pH testing. 37.1% had abnormal esophageal manometry
- pH elevation (DeMeester scoring), was high in 71.4% of patients with allograft rejection vs 53.6% of those without rejection ( $p < 0.672$ ). Mean DeMeester scores for those with and without rejection were 50.4 and 29.5, respectively
- High rates of gastroparesis were identified with 66.7% for those with rejection ( $n=6$ ) vs 46.4% for those without ( $n=28$ ,  $p < 0.6562$ ). Median gastric emptying at 4-hours time was 20.0 for rejection vs 4.8 for those without
- High resolution manometry noted abnormalities in 42.9% of patients with rejection ( $n=7$ ) compared to 35.7% without ( $n=28$ ,  $p=1$ )

## CONCLUSIONS

- High rates of gastrointestinal motility disorders are seen post-transplant with delayed gastric emptying (50.0%), increased acid-exposure time (57.1%), and abnormal manometry (37.1%), however there were no statistically significant differences between those with and without allograft rejection in our study
- Secondary to the rarity of allograft rejection, larger, likely multicenter studies evaluating this association may be warranted

	Patients With Allograft Rejection (N=11)	Patients Without Allograft Rejection (N=64)
Mean Age (years)	60	57
Sex (%male)	63.6	65.6
Deaths	3	6
Abnormal pH Testing	5/7 (71.4%)	15/28 (53.6%)
Mean DeMeester Score (SD)	50.4 (95.2)	29.5 (50.4)
Delayed Gastric Emptying Studies	4/6 (66.7%)	13/28 (46.4%)
Median Gastric Emptying at 4-hours time (%)	20.0	4.8
Abnormal Esophageal Manometry	3/7 (42.9%)	10/28 (35.7%)

## REFERENCES

Basseri B, Conklin JL, Pimentel M, Tabrizi R, Phillips EH, Simsir SA, Chaux GE, Falk JA, Ghandehari S, Soukiasian HJ. Esophageal motor dysfunction and gastroesophageal reflux are prevalent in lung transplant candidates. *Ann Thorac Surg.* 2010 Nov;90(5):1630-6. doi: 10.1016/j.athoracsur.2010.06.104. PMID: 20971278.

## CONTACT INFORMATION

[bmy3js@hscmail.mcc.virginia.edu](mailto:bmy3js@hscmail.mcc.virginia.edu)