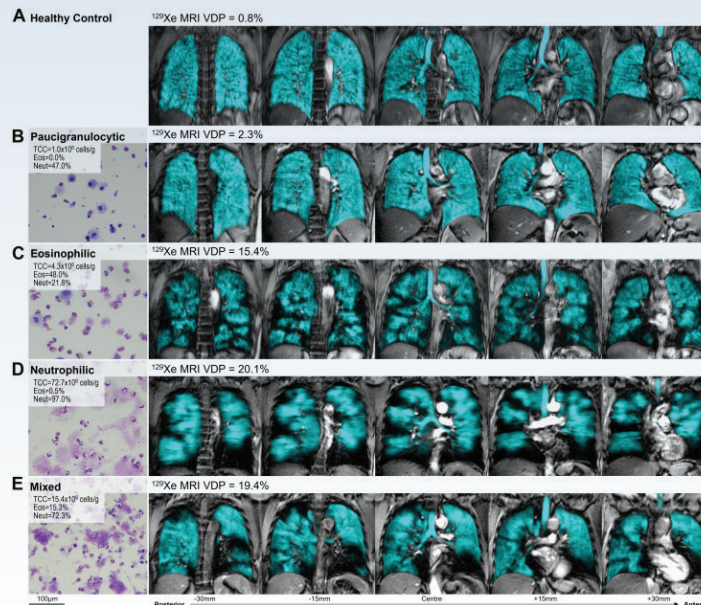


# What Is the Effect of Different Sputum Cellular Phenotypes on Abnormal Ventilation Evaluated by $^{129}\text{Xe}$ MRI in Severe Asthma?

## STUDY DESIGN

- **Single-center, retrospective analysis** of 85 patients with severe asthma and 15 age-matched healthy control participants
- **Sputum cytometry** stratified patients with asthma into paucigranulocytic, eosinophilic, neutrophilic, or mixed-granulocytic phenotypes
- Abnormal ventilation quantified using postbronchodilator **MRI ventilation defect percent (VDP)**

## RESULTS



- Compared with controls, **MRI VDP was higher in asthma with eosinophilic, neutrophilic, and mixed-granulocytic phenotypes** but not with the paucigranulocytic phenotype

The findings of this study suggest that in severe asthma, ventilation is abnormal in the presence of intraluminal cellular inflammation, irrespective of phenotype.