

# Preexisting CTEPH in acute PE patients included in RIETE registry from years 2019 to 2022

**Authors:** Urtans, J., Purins, R., Kigitovica, D., Gibietis, V., Rusa, E., Strautmane, S., Zaicenko, A., Dzirnicks, K., Paluga, R., Saulite, L., Kalnina, P., Karols, A.

**Supervisor:** Dr. med., Associate Professor Andris Skride



## Background

- Chronic thromboembolic pulmonary hypertension (CTEPH) is serious long term complication of acute pulmonary thromboembolism (PE).
- Patients presenting with acute PE may have signs of preexisting CTEPH.

## Objectives

- Assess how many PE patients are registered in RIETE registry from single center in Latvia and had echocardiogram recorded within registry.
- Determine how many patients presenting with acute PE may have CTEPH and what echocardiographic changes and events associated with PE are more likely to be present in patients with higher RVSP.

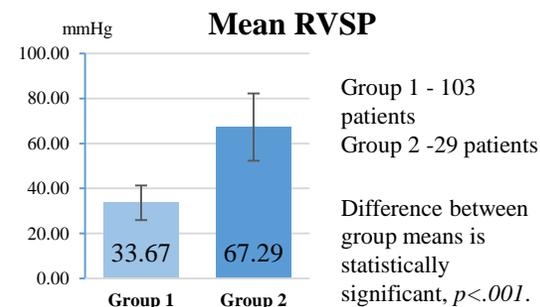
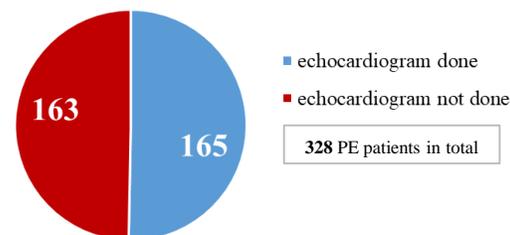
## Methods

- Study design descriptive cross-sectional study.

- Study included patients with PE registered in Computerized Registry of Patients with Venous Thromboembolism (RIETE) from Latvian center.
- Patients were divided in two groups based RVSP. Group one - RVSP < 50 mmHg and group two - RVSP ≥ 50 mmHg, which is associated with heart failure and higher mortality and may indicate preexisting CTEPH.
- Prevalence of echocardiographic parameters and events associated with PE was calculated.

## Results

PE patients with recorded echocardiogram



Prevalence of echocardiographic parameters and events in group 1 and group 2.

Parameter	Group 1 (RVSP <50)	Group 2 (RVSP ≥50)
Patients in group	103	29
IVC diameter	11.65%	24.14%
IVC collapsibility (<50%)	12.62%	34.48%
TAPSE (<16mm)	21.36%	37.93%
RA dilatation	42.72%	65.52%
RV hypertrophy	3.88%	17.24%
Pericardial effusion	13.59%	13.79%
Event	Group 1 (RVSP <50)	Group 2 (RVSP ≥50)
History of PE	23.30%	31.03%
PE recurrence	5.83%	13.79%
All-cause mortality	14.56%	24.14%

## Conclusions

- Substantial portion of patients presenting with acute PE may have preexisting CTEPH.
- Patients with RVSP ≥50 mmHg have higher prevalence of right ventricular pressure overload, dilatation and hypertrophy.
- In addition patients with RVSP ≥50 mmHg had higher prevalence PE recurrence and all-cause mortality thus they may have worse prognosis.
- These findings suggest that patients with right ventricle systolic pressure ≥ 50 mmHg might require further assessment and treatment of pulmonary hypertension.
- Patients with RVSP ≥50 mmHg may need additional preventative measures to prevent recurrent PE.