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Late Breaking Abstract - The impact and timing of pulmonary rehabilitation in patients undergoing bronchoscopic lung volume reduction with endobronchial valves: a randomized controlled trial in patients with severe emphysema

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Background

Both bronchoscopic lung volume reduction with endobronchial valves (BLVR-EBV) and pulmonary rehabilitation (PR) are effective treatments for improving exercise capacity and patient-reported outcomes in patients with severe Chronic Obstructive Pulmonary Disease (COPD).

Aim

To study the impact and timing of PR in patients who underwent BLVR-EBV.

Methods

We included patients with severe COPD who were eligible for BLVR-EBV and PR. Participants were randomized into three groups: PR before BLVR-EBV, PR after BLVR-EBV, or BLVR-EBV without PR. The primary outcome was change in constant work rate cycle test (CWRT) endurance time at 6-month follow-up between the PR groups and BLVR-EBV only group. Secondary endpoints included changes in six-minute walking test, daily step count, and patient-reported outcomes.

Results

Ninety-seven participants were included. At 6-month follow-up, there was no difference in change in CWRT endurance time between the PR groups and BLVR-EBV alone (median: 376 [IQR: 26; 906] vs. 601 [73; 1003] seconds, $p=0.416$) or any of the secondary endpoints. Similarly, we found no differences in change in CWRT endurance time between the groups that underwent PR before and after BLVR-EBV (421 [44; 1304] vs. 292 [17; 630] seconds, $p=0.210$) or in the secondary endpoints.

Conclusion

The combination of PR and BLVR-EBV did not result in increased exercise capacity, daily step count, or improved patients-reported outcomes compared to BLVR-EBV alone. The timing of PR in relation to BLVR-EBV did not affect treatment efficacy.