

STRIKE-PE: Outcomes of Pulmonary Embolism After Mechanical Thrombectomy in 1000 Patients, With 1-Year Follow-Up of Functional Outcomes and Quality of Life

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Background

Survivors of pulmonary embolism (PE) frequently experience persistent functional limitations and compromised quality of life (QOL).

Methods

STRIKE-PE is a prospective, international study enrolling 1500 patients with acute PE symptoms of ≤ 14 days and a right-to-left ventricular (RV/LV) ratio of ≥ 0.9 . Primary effectiveness endpoint is change in RV/LV ratio at 48-hour follow-up and primary safety endpoint is a composite of major adverse events (MAEs) within 48 hours. Functional outcomes and QOL are measured through 1-year follow-up.

Results

This analysis reports on 1000 PE patients treated with computer assisted vacuum thrombectomy (CAVT) and 1-year functional outcomes and QOL for 522 of these patients. Between baseline and 48 hours, mean RV/LV ratio significantly decreased from 1.38 to 0.97 ($\Delta 27.2\%$, $P < .001$). The composite MAE rate within 48 hours was 1.9%.

Distribution of NYHA classification was restored at 1 year to that of before the PE event (Figure). From 90 days to 1 year, 6-minute walk test distance improved from 366.2 to 393.1 meters ($P < .001$)

Borg dyspnea scale at rest and all QOL measures significantly improved from baseline to 90 days ($P < .001$; Figure); improvements continued or were sustained from 90 days to 1 year. From baseline to 90 days to 1 year, Borg dyspnea scale at rest improved from 5.7 (to 0.8 at discharge) to 0.3 to 0.3; EQ-5D-5L index value, from 0.413 to 0.805 to 0.821; EQ visual analog scale, from 49.0 to 76.7 to 79.0; and total Pulmonary Embolism Quality of Life questionnaire score, from 42.7 to 19.6 to 14.2.

Conclusion

STRIKE-PE provides further evidence on the safety and effectiveness of CAVT for PE. Short-term benefits after CAVT treatment of PE are accompanied by longer-term benefits of restored functional status, increased walking distance, reduced dyspnea, and improved QOL. These findings suggest a potential role for CAVT in mitigating post-PE functional impairment.

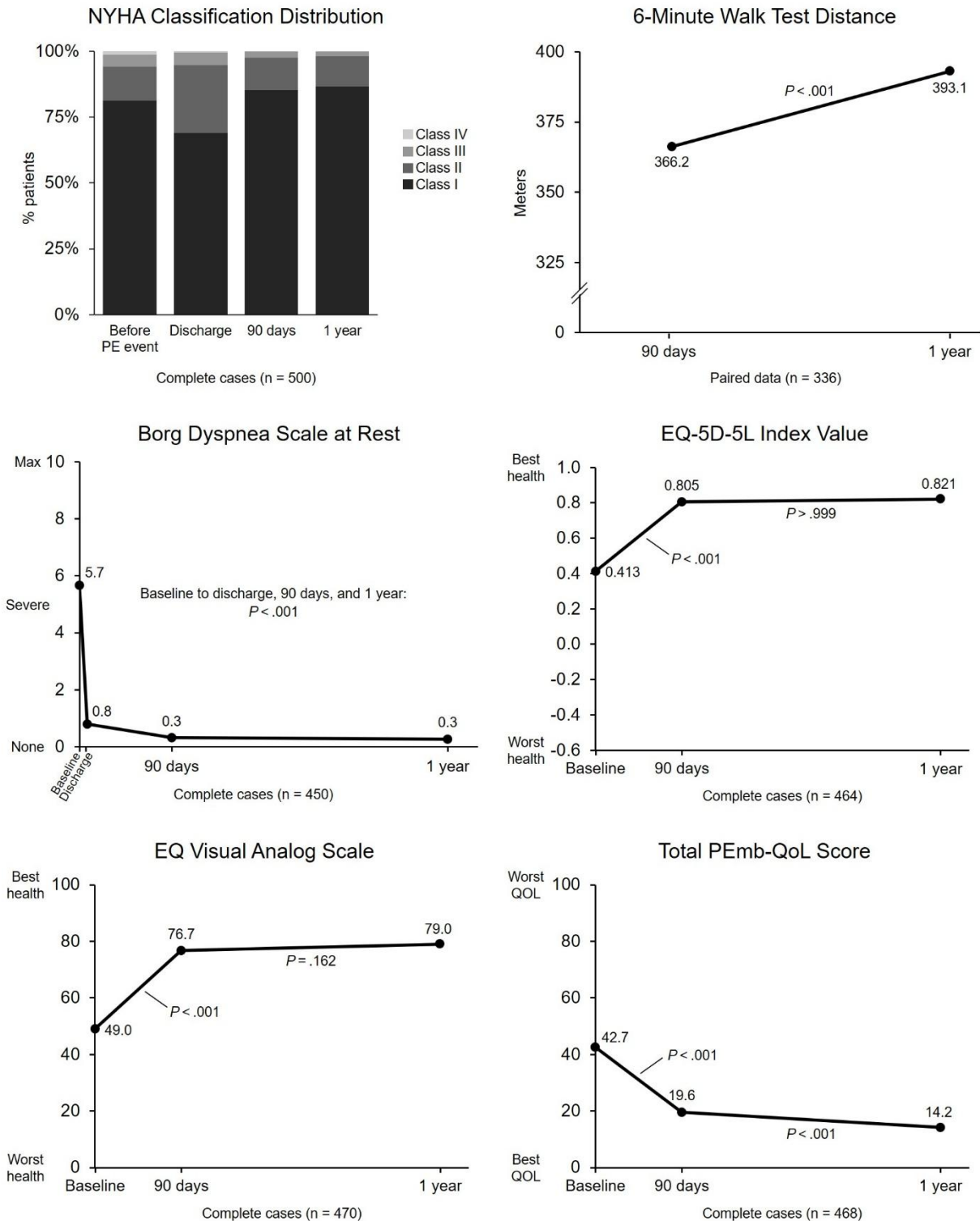


Figure. Functional outcomes and quality of life in pulmonary embolism patients treated with computer assisted vacuum thrombectomy. NYHA, New York Heart Association; PE, pulmonary embolism; PEmb-QoL, Pulmonary Embolism Quality of Life questionnaire; QoL, quality of life. Mean values are shown for all x-y graphs.