

Category : **Respiratory: ARDS**

A59 - Association between driving pressure and mortality in very old patients with acute respiratory distress syndrome

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Introduction:

We evaluated the association between driving pressure and mortality across different age groups of patients with acute respiratory distress syndrome (ARDS) with a special focus on very old patients (≥ 80 years old).

Methods:

We performed a secondary analysis of individual patient-level data from seven ARDS Network and PETAL Network randomized controlled trials [1-7]. We considered three age groups; namely, patients < 65 years old, 65-79 years old and ≥ 80 years old.

Results:

Of 4567 patients with ARDS, 201 were ≥ 80 years old, 917 were 65-79 years old and 3449 were < 65 years old. In unadjusted logistic regression analyses, the odds ratio (OR) for the association between driving pressure and mortality was 1.081 [95% confidence interval (CI) 1.027–1.138] for ≥ 80 years old, 1.054 (95% CI 1.031–1.077) for 65-79 years old and 1.016 (95% CI 1.005–1.028) for < 65 years old. Consistently, in adjusted analyses, the corresponding OR was 1.112 for ≥ 80 years old, 1.055 for 65-79 years old and 1.024 for < 65 years old. The effect of driving pressure on mortality was higher for patients ≥ 80 years old compared to patients 65-79 years old or patients < 65 years old ($p=0.009$ for the interaction between age and driving pressure; Figure).

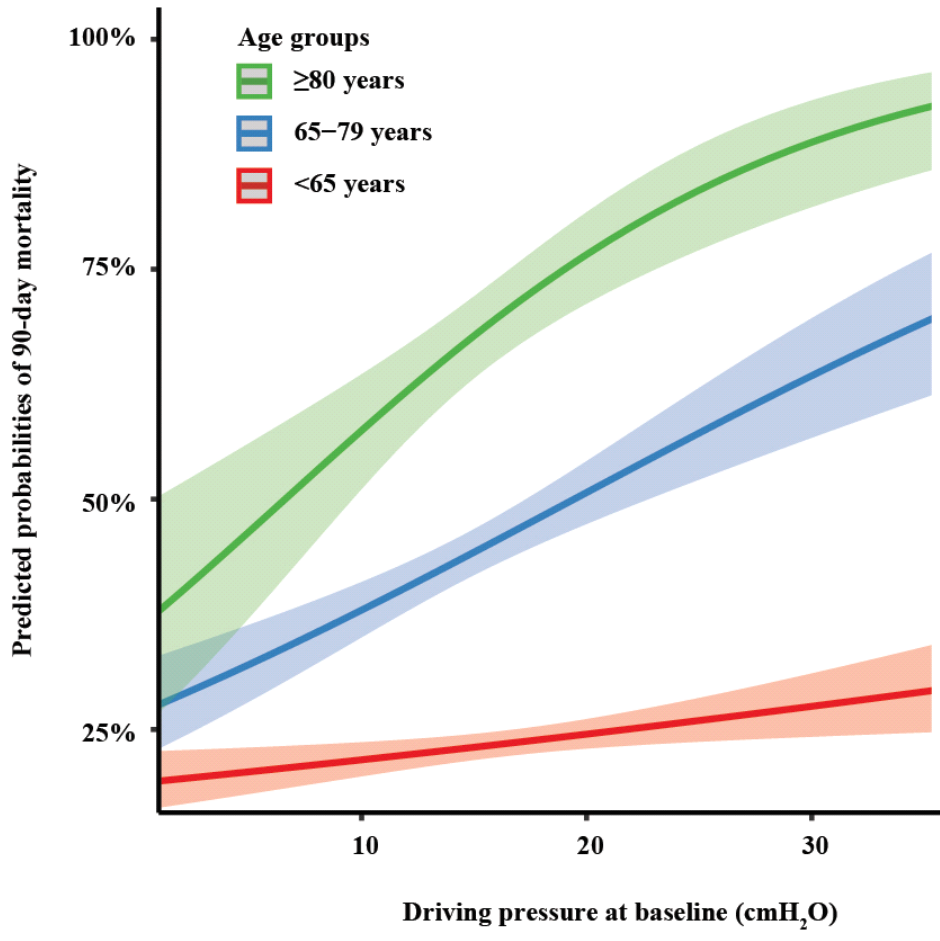
Conclusion:

Very old patients with ARDS may be more vulnerable to high driving pressure than their younger counterparts. These results may advocate for a personalized age-dependent mechanical ventilation approach.

References:

1. Brower RG et al. N Engl J Med. 2000;342(18):1301-8.
2. Brower RG et al. N Engl J Med. 2004;351(4):327-36.
3. Wiedemann HP et al. N Engl J Med. 2006;354(24):2564-75.
4. Matthay MA et al. Am J Respir Crit Care Med. 2011;184(5):561-8.
5. Rice TW et al. JAMA. 2012;307(8):795-803.
6. Truwit JD et al. N Engl J Med. 2014;370(23):2191-200.
7. National Heart, Lung, and Blood Institute PETAL Clinical Trials Network. N Engl J Med. 2019 May 23;380(21):1997-2008.

Image :



Interaction plot showing that the effect of driving pressure on mortality was influenced by age.