

Driving Pressure and Survival in the Acute Respiratory Distress Syndrome

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Introduction

Driving pressure represents the ratio between tidal volume and respiratory system compliance ($\Delta P = VT/C_{RS}$) and the authors of this study hypothesize that driving pressure would be strongly associated with survival compare to other ventilation variables such as tidal volume or PEEP in mechanically ventilated patients.

Methods

Retrospective analysis of 3562 patients with ARDS previously enrolled in 9 RCT's.

Primary endpoints:

- Survival in the hospital at 60 days

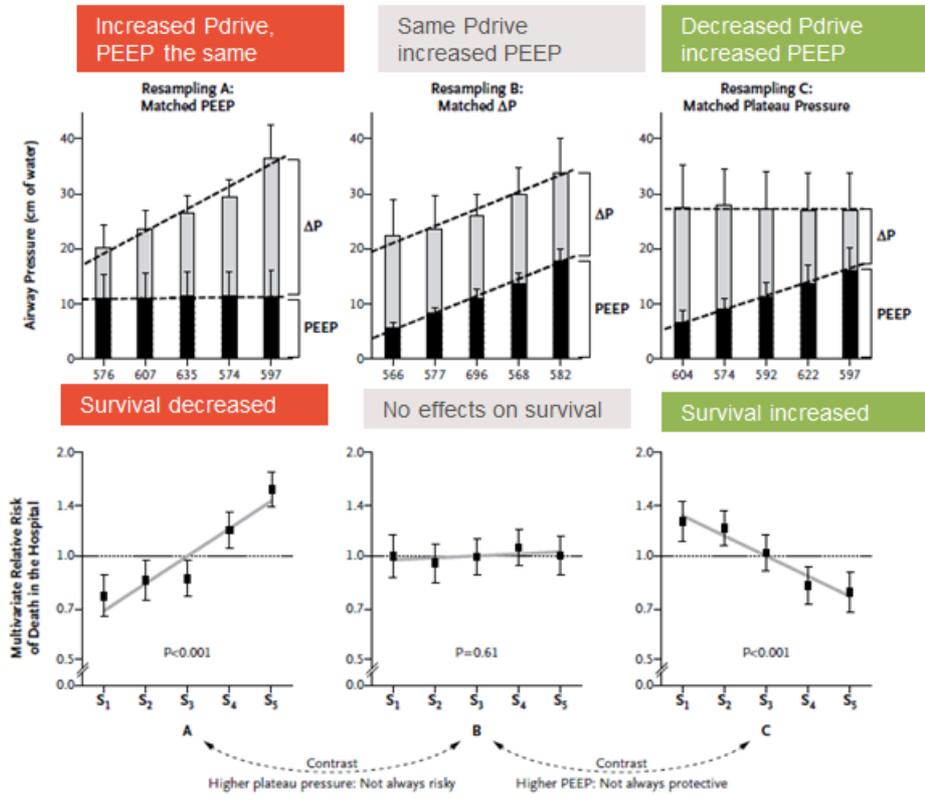
Results

Among ventilation variables, driving pressure was most strongly associated with survival ($P < 0.001$).

The following graphs show the differences in survival rate between different strategies.

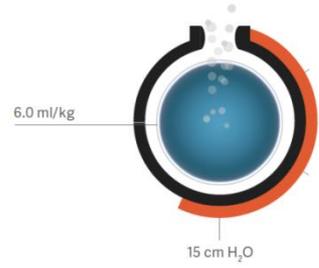
Conclusion

Increase in driving pressure strongly associated with mortality with ARDS patients.



Our Key Takeaways:

- Timely recognition and prompt adherence to protective ventilation may be important for maximally reducing ICU mortality in patients with ARDS.
- Among all other ventilation variables, driving pressure was most strongly associated with survival.
- Results from 2,377 patients enrolled in the LUNG SAFE study also showed that **a driving pressure less than 14 cmH₂O** was associated with increased survival in moderate and severe ARDS patients. Therefore, it is important to monitor ventilator changes are linked to achieve changes in ΔP, in order to determine the ventilation strategy.



Servo Compass is a tool that clearly visualizes when driving pressure and/or tidal volume per PBW is off track, early notifying staff that an intervention is needed to reduce stress and strain.

If you cannot see the problem, you cannot solve it!