

There is no difference in 28 day mortality between patients who retain improvements in oxygenation following the initial session of prone positioning for moderate to severe ARDS

David M Hannon

Introduction

The mortality of patients suffering from severe ARDS can be improved by being placed in the prone position. This document outlines a basic analysis of a dataset of patients from the ICU of University Hospital Galway who were invasively ventilated and placed in the prone position.

Methods

The data was refined to include patients with moderate to severe ARDS (as per the Berlin criteria). Their initial session of prone positioning was also isolated.

Patients were classified as 'responders' or 'non-responders' based on whether they retained beneficial changes to either POF ratio or Ventilatory Ratio after their initial session of prone positioning. If their PF ratio was higher after proning than before, they were classified as a 'responder'. If Ventilatory Ratio was lower after proning they were classified as a 'responder'. Otherwise, they were classified as a 'non-responder'. The 28-day-mortality of the patients was compared between these two groups.

Results

PF ratio

A total of 117 sessions of prone positioning were analysed. The two groups were compared with Pearson's Chi-squared test. The results of initial grouping is below.

	non-responder	responder
lived for 28	13	50
died within 28	12	39

Comparing the groups using Pearson's Chi Squared showed no significant difference.

Pearson's Chi-squared test

```
data: pre_post_sess1$pf_responder and pre_post_sess1$mortality_28
X-squared = 0.13792, df = 1, p-value = 0.7104
```

There is no significant difference between the two groups.

Ventilatory Ratio

The amount of cases analysed in this case was less than for PF ratio. This is due to the fact that to calculate Ventilatory ratio requires that we know the patient's height (to calculate Predicted Bodyweight), and this was missing in around 25% of cases. A total of 85 cases were analysed.

Initial results show the following:

	non-responder	responder
lived for 28	19	29
died within 28	16	21

Comparing the groups using Pearson's Chi Squared showed no significant difference.

Pearson's Chi-squared test

```
data: pre_post_sess1$vr_responder and pre_post_sess1$mortality_28
X-squared = 0.11555, df = 1, p-value = 0.7339
```

Conclusion

There is no significant difference in 28 day mortality between patients who did and did not retain changes to their PF ratio after their initial session of prone positioning.