

Summary

Evaluating the new ATS/ERS interpretation of bronchodilator response in children

In 2022, updated bronchodilator response (BDR) guidelines were published by ERS/ATS changing the method of calculation from $((\text{post mL} - \text{pre mL}) * 100 / \text{pre mL})$ to $((\text{post mL} - \text{pre mL}) * 100 / \text{predicted mL})$. This updated calculation was not yet validated for use in paediatrics.

My poster displayed a retrospective analysis of the BDR for 210 tests in a paediatric population. We found that in children, BDR for old and new respectively, was 5(-5-39) % and 4(-5-28)% with a difference between methods of 0.16(-2.8-11.5)%($p < 0.01$) and 95% Limits of agreement of -3.2, 4.9%. The proportion positive did not significantly differ between methods (14% vs 13%, $p = 0.89$). Concordance of classification occurred in 84% of tests. There were 5 discordant results: 3 positive using old methodology and 2 positive on new methodology.

We concluded that there was a statistically significant difference in the magnitude of BDR and no change in the classification of positive/negative. Discordance may preferentially affect those with low volumes.