

1.31. Diagnostic accuracy of single and repeated measures of spirometry and type 2 inflammatory markers for asthma in adults already taking inhaled corticosteroids

Dr. Patrick Kerr^{1,2}, Dr. Ciara Ottewill^{1,3}, Dr. Cara Gill^{1,4}, Dr. Margaret Gleeson¹, Ms. Orla Smith¹, Ms. Helen Doherty¹, Ms. Elaine MacHale¹, Prof. Richard Costello^{1,2}

¹RCSI, Dublin, Ireland. ²Beaumont Hospital, Dublin, Ireland. ³Bon Secours Hospital, Dublin, Ireland. ⁴Mater Private Hospital, Dublin, Ireland

Background: The absence of a gold standard diagnostic test for asthma, alongside inherent variability in symptoms and lung function leads to diagnostic uncertainty. Treatment is often commenced without confirmatory testing. We evaluated the accuracy of diagnostic tests through a clinical study in symptomatic adults prescribed inhaled corticosteroids(ICS).

Methodology: Adults with a clinical diagnosis of asthma and persistent respiratory symptoms, despite ICS therapy, were recruited. Spirometry & T2 biomarkers were measured at 4 visits over 12 weeks, and long-term follow-up was conducted. Peak flow and inhaler adherence were recorded digitally. Data on the first 100 patients with long-term follow-up are available.

Results: Fifty-four patients had confirmed asthma. Twenty patients were confirmed at enrolment, a further 18 were diagnosed during the study, while methacholine challenge confirmed diagnosis in 16.

Obstruction and bronchodilator responsiveness(BDR) at enrolment demonstrated 18% sensitivity, 99% specificity for asthma diagnosis, while obstruction and FeNO>50 demonstrated 15% sensitivity and 99% specificity. Obstruction, with raised FeNO or BDR at any stage improved sensitivity 62%, with a specificity of 92%(Negative predictive value 67%,positive predictive value 90%).

Conclusion: Current guideline-advised diagnostic tests, when measured patients already receiving ICS, show poor sensitivity but excellent specificity. Repeated testing over time improves diagnostic accuracy.

Disclosures

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Conflict of Interest: Richard Costello has patents on the use of acoustics to assess inhaler errors and adherence, a method to quantify adherence, predict exacerbations, has received grants from Aerogen and GlaxoSmithKline; and speaker fees for Aerogen, AstraZeneca and GlaxoSmithKline.

Corresponding author: Patrick J Kerr <https://orcid.org/0000-0002-5419-9794>

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