



Letter to the Editor

Safety of Discontinuing Asthma Treatment Before Performing a Methacholine Challenge Test[☆]



Seguridad de la interrupción del tratamiento para el asma antes de la realización de la prueba de metacolina

To the Editor,

The methacholine challenge test (MCT) is a diagnostic test required in many cases of suspected asthma.^{1,2} GEMA and GINA guidelines state that is more useful for ruling out asthma than for confirming it, but neither specify whether it should be performed with regular medication nor if this should have been suspended previously.^{1,2} This is relevant, as sensitivity to the test falls to 77% when the patients are using their regular treatment,³ as frequently occurs in patients referred to a specialized clinic. In these circumstances, the doctor should decide whether to maintain treatment or to suspend it before the MCT.

The aim of this letter is to share our experience about the safety of suspending regular treatment before the MCT. To this aim, we reviewed the electronic medical records of 523 patients in whom MCT was requested between 2010 and 2016. Of these 88 (70% women, mean age: 50.4 years) were selected because they were receiving regular medication before the consultation (50% combined inhaled corticosteroid and long-acting β -agonist, 13.6% inhaled corticosteroid in monotherapy, and 13.5% triple therapy) and interrupted, who suspended their medication until the MCT was conducted (with the exception of salbutamol, as needed). All patients were instructed to go urgently to the Respiratory Medicine Day Clinic in case of worsening. The most common symptom was cough (75%), followed by dyspnea (66%) and self-reported wheezing (42%), and in 18%, an exacerbation was recorded in their clinical records. Allergy skin tests were positive in 30.5% of cases, and median level of eosinophils in blood was 200 cells $\times 10^6/l$. None of the patients had FEV1/FVC $< 70\%$, and only 3% had a positive bronchodilator challenge. FENO values were higher than 50 ppb in 11.9%. In the period between suspension of medication and performance of the MCT (median 113 days, range: 23–445), 7 patients (8.4%) sought medical attention for clinical worsening. After medical and functional examination, signs of asthma were found in only 1 individual. In 2 additional cases (2.4%), asthma was diagnosed on the same day of the MCT due to significant decline in FEV1. None of the patients developed a severe exacerbation. Five patients (5.7%) were lost to follow-up, and by reviewing the electronic medical record, it was established that only 1 of them was treated for asthma in

primary care. MCT was positive in 35% of cases and FENO values > 30 ppb were not useful for predicting positivity (area under the ROC curve: 0.614).

Most authors propose tapering medication in successive steps, interspersed with serial MCTs before it is fully withdrawn.^{4,5} This process is burdensome for the lung function laboratories and inconvenient for the patients (in addition to the small risk). From our experience, we believe that the abrupt and complete suspension of medication is a safe strategy in patients with a clinical diagnosis of asthma and normal lung function in whom the plan is to rule out or confirm the disease by way of an MCT.

Conflict of Interests

Dr Pérez de Llano has received payment from Novartis, Astra, GSK, Teva, Sanofi, Sandoz, Zambón, Boehringer, Chiesi, Almirall, Esteve and Ferrer for presentations at medical congresses, consultancy, and coordination or participation in clinical research projects. He has also been invited to attend national and international congresses by some of these laboratories.

References

1. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention 2016 update. [accessed 10 Jan 2017] Available in: <http://ginasthma.org/2016-gina-report-global-strategy-for-asthma-management-and-prevention/>
2. Plaza Moral V, Comité Ejecutivo de GEMA. Guía española para el manejo del asma (GEMA). Arch Bronconeumol. 2015;51 Suppl. 1:S2–54.
3. Sumino K, Sugar EA, Irvin CG, Kaminsky DA, Shade D, Wei CY, et al. Writing Committee for American Lung Association Asthma Clinical Research Centers. Methacholine challenge test diagnostic characteristics in asthmatic patients receiving controller medications. J Allergy Clin Immunol. 2012;130:69–75.
4. Luks VP, Vandemheen KL, Aaron SD. Confirmation of asthma in an era of over-diagnosis. Eur Respir J. 2010;36:255–60.
5. Aaron SD, Vandemheen KL, FitzGerald JM, Ainslie M, Gupta S, Lemièrre C, et al. Reevaluation of diagnosis in adults with physician-diagnosed asthma. JAMA. 2017;317:269–79.

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