Reviewer's report

Title: The Correlation between the bronchial hyperresponsiveness to methacholine and asthma-like symptoms by GINA questionnaires for the diagnosis of asthma

The Correlation of Methacholine Bronchial Provocation Test and GINA Questionnaires to diagnose asthma

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Reviewer: Peter Wark

Reviewer's report:

This is an interesting manuscript that uses the 5 GINA asthma questions to determine the presence of asthma, as defined by bronchial responsiveness induced by methacholine.

This is a large sample and this adds considerable validity to the findings. The manuscript makes an important contribution to the field addressing what questions can be used to define asthma.

There are some major limitations however that need to be addressed.

Importantly it needs to be clarified as to the nature of the population. They are stated as subjects referred to a large university hospital with possible asthma. If so then this is not a sample representative of primary care, but rather secondary care. While still valid the applicability of these findings are potentially different. If they have been referred then this in itself is a selected population and the sensitivity and specificity for an unselected primary care population would be different. This is an important point and requires clarification.

Minor points

1. In the methods it is stated that those with symptoms and methacholine reactivity were diagnosed with asthma. Clarify if those with methacholine reactivity, but who answered no to the symptoms were defined.

2. The statement in the discussion that this provides a gold standard as a questionnaire for diagnosis of asthma is an overstatement and should be revised.

3. Page 12 of the discussion the Youden index is mentioned. This needs to be defined, and will not be understood by the majority of readers.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I have no conflicts to declare.