

# Prolonged cough and lung cancer: the need for more general practice research to inform clinical decision-making

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## SUMMARY

*Despite its clinical relevance, an extensive literature search for papers reporting on the relationship between prolonged cough and lung cancer revealed only one paper from a specialized setting. No study originating from primary care could be identified.*

*Keywords: cough; lung cancer; research in general practice; decision making.*

## Introduction

The prior odds of most diseases in primary care are well known from a number of morbidity registries. However, signs and symptoms significantly alter these prior odds. Some of these signs and symptoms (also called 'key symptoms') are believed to indicate a high likelihood of a disease, with important consequences for early diagnosis. This is especially true for some cancers; e.g. macroscopic haematuria can signal urological cancers, and anal blood loss can signal colorectal cancer. The impact of such signs and symptoms can be studied in the same way that diagnostic test results are evaluated. Such studies are highly relevant for general practitioners because most of these 'beliefs' result from hospital-based research and are not in themselves applicable to general practice, as the diagnostic value of test results depends on the setting in which the test is used.<sup>1</sup>

In most developed countries, and with the exception of some groups of patients (e.g. those suffering from chronic bronchitis), prolonged cough (defined as a cough with a duration of six weeks or more) is considered to be a key symptom indicating an increased likelihood of lung cancer. Within the framework of a larger study on the diagnostic value of key symptoms for the diagnosis of cancer in general practice, a meta-analysis was performed on the diagnostic value of prolonged cough for the subsequent diagnosis of lung cancer, focusing especially on general practice.

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## Methods

Data collection included an extensive MEDLINE search (1966–1995), using both MeSH and free-text terms, a FAMILI search (1980–1991), and careful screening of the references of all the papers retrieved. All papers reporting on the relation between prolonged coughing (six weeks or more) and the diagnosis of lung cancer in a cohort of subsequent patients were included. Studies were excluded if there were insufficient data for the calculations or if patients were chosen selectively, other than by setting. Studies from primary care and studies from referred patients, or patients cared for by specialists, were processed separately. Sensitivity, specificity, and both positive and negative predictive value were copied from the publication or calculated on the basis of the published crude data.

## Results

Only one study<sup>2</sup> was found which reported the data of all cells of the two-by-two table necessary for calculating the basic indicators of diagnostic value: sensitivity, specificity, and positive and negative predictive value. The study, published in 1977, related to 6027 patients from a specialized setting. It revealed a high negative (0.99) and a low positive (0.03) predictive value, a sensitivity of 0.48, and a specificity of 0.71. From one additional study,<sup>3</sup> based on data from the Swedish Cancer Registry, only the sensitivity could be calculated (0.33).

## Discussion

The most important finding of our review of the literature is that no general practice-based study could be obtained that reported basic data for estimating the diagnostic value of prolonged cough for lung cancer. A lot of work still needs to be done to determine the diagnostic value of this symptom and of many other signs and symptoms for cancer and other major diseases. It is necessary to base the teaching of general practice on research performed within general practice rather than in teaching hospitals.

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