Archivos de Bronconeumología 58 (2022) 635–636

Sociedad Española de Neumología y Cirugía Torácica SEPAR

ARCHIVOS DE Bronconeumología

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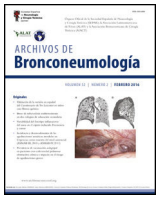

Editorial

Idiopathic Haemoptysis and Lung Cancer: The Relevance of the Underlying Disease

The Greek words 'haem' for blood and 'ptusis' for spitting are the origins for haemoptysis. Haemoptysis is when blood is coughed up from an infra-glottic source. This clinical phenomenon is highly variable: It can be blood-streaked sputum to massive bleeding. There are a significant number of aetiologies from thromboembolic disease, lower respiratory infections, pneumonias, lung cancer, vasculitis, toxic gas inhalation and tuberculosis.[1–4] As Gonzalez-Barcala et al. found, 12.8% of lung cancer patients present with haemoptysis.[5]

Haemoptysis is considered a red flag symptom for lung cancer with approximately 19% of patients with lung cancer presenting with haemoptysis.[6]

Initial investigations are usually a plain chest radiograph [CXR] (within 2 weeks in countries such as the United Kingdom), and subsequent investigations, mostly done through secondary car practitioners, will invariably be cross sectional imaging with computed tomograms (CT). However, CT scanning, which does have a greater than 95% sensitivity or specificity for malignancy can be normal and miss small endobronchial ill-defined tumours in the lower lobes.[2] Thus, CT scans are often performed alongside fibreoptic bronchoscopy (FOB) but the value of FOB in patients with non-massive haemoptysis and clear or benign CT findings is unclear.[2] Large retrospective data sets suggest that FOB is not worthwhile in these patients and can be resource heavy.[7]

So, how can we streamline investigations and pathways? This is where the study by Modoni et al. comes in.[8] The current study is a subgroup analysis of 606 prospective enrolled patients with haemoptysis from various Italian institutions and the authors must be commended on doing this, as the vast majority of the previous studies have been retrospective.[9,10] They followed up everyone where there was no initial diagnosis over 18 months which is a wholly adequate timeframe. The authors have showed that (with univariate analysis) if a patient is male, has a history of smoking, is having more than just mild haemoptysis and has an abnormal CXR, the presentation is highly likely to be of a malignancy. Multivariate analysis revealed age, abnormal CXR and previous airway cancer to be predictive.

Thus, where does this evidence leave the scientific community? One might argue that the above is already known, and some of it is. However, primary and secondary in Europe are facing unprecedented pressures. The COVID-19 pandemic rages on, with fears of winter waves. Charitable campaigns have been intensified to encourage patients to present for further investigations. Lung cancer pickup and survival rates remain abysmal, mostly due to late presentations.[11,12] The investigative pathway in someone with haemoptysis that initially eludes diagnosis is thus for further debate and should perhaps be streamlined to reduce pressures on services: this is a call for individualised pathways.[13,14]

What is probably required, initially, is a thorough initial history and a CXR. Should the CXR be abnormal, then normal investigation such as CT scan and FOB and directed biopsies would be the norm. If no cause if found, anecdotally, patients are often discharged, but this should not apply to all, as if the above risk factors are present, then further follow up is required.

This poses further questions: what is the optimal follow up period? How should patients be followed up? Virtually? Face to face? What investigations should they have? Serial radiographs or cross-sectional imaging? What are the health-economic benefits of implementing such a programme? All these points need to worked up in a large multicentre international randomised trial. A proposal for funding and support for example could be proposed to the European Respiratory Society through their clinical research collaboratives.[15]

A further final point to raise would be to debate further where the above results lie with the nascent lung cancer screening programmes. These have been very successful at finding early stage cancer, and have enabled curative surgery in many.[16] Could those with so called idiopathic haemoptysis be plugged into screening programmes, or should they?

Once again, I congratulate the authors on their initial study, and continuing with various sub group analyses. Implementing their findings in the right setting with the right patients at the right times would have important clinical significance.

Authorship statement

AA wrote the full article.

Ethics statement

Ethics statement is not applicable.

Funding

There is no funding.

https://doi.org/10.1016/j.arbres.2021.12.002

Conflict of interest

Conflicts do not exist.

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