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Dear Editor,

we read with great interest the two papers recently published by Torbiarczyk et al. [1] and Springer *et al.* [2] where the authors discuss the role of diagnostic procedures in patients with haemoptysis. In the first study the authors evaluated the role of bronchoscopy in identification of bleeding source: due to the low visualization rate of the site of bleeding (11%), they suggest a possible overuse of bronchoscopy in the diagnosis of haemoptysis, in particular in young patients with a non-massive bleeding. Recently an Italian group of study investigated the role of early bronchoscopy (performed within 48 hours the onset of the first symptom) in localization of the bleeding site and in diagnosis of its cause [3]. They concluded that an early bronchoscopy in the emergency department does not improve neither the rate of diagnosis nor the localization of the bleeding. Torbiarzyk et al too, in their article discussion, seem to confirm a limited role of bronchoscopy for these two outcomes. Springer et al evaluated the efficacy of the bronchial artery embolization (BAE) in patients with haemoptysis, describing a high rate of successful procedures [2]. In a paper of Patrucco and colleagues, the authors describe the completion of a BAE in a patient with an arteriovenous malformation with full resolution of the bleeding [3]. In clinical practice BAE is used to control massive haemoptysis, as a bridge to surgical resection or as a definitive therapy, in cases of recurrent haemoptysis and in patients who are unfit for surgical procedures [4]. Moreover, in some studies BAE is used in case of inconclusive endoscopic intervention [5].

A different topic is the massive haemoptysis that requires an intensive and prompt management. In this case the role of fiberoptic and rigid bronchoscopy seems to be pivotal at least for the choice of the ipsilateral decubitus to the site of bleeding to protect the healthy lung and to save time for different procedures but such important bleedings represent only a small part of the cases admitted to the emergency department [6, 7].

Gavelli and colleagues aimed to improve the management of much more frequent mild-to-moderate haemoptysis in their middle-size University hospital by proposing a clinical algorithm with different conclusions about the usefulness of fiberoptic endoscopic procedure [8]. It is a multi-step approach that provides, in case of recurrent haemoptysis or in case of suspected neoplastic lesion or high risk for lung cancer, a computed tomography of the thorax. After the radiologic examination, each patient underwent as soon as possible a bronchoscopy with different goals, not only diagnostic but also therapeutic. BAE and surgery were reserved respectively to non-neoplastic haemoptysis and neoplastic disease or uneffective BAE. Some important aspect of this approach is worthy to be underlined: in fact even if recent literature doesn't seem to suggest an endoscopic evaluation in case of a negative computed tomography regarding a diagnostical point of view [9], a bronchoscopy is the only procedure able to have a therapeutical role after the definition of the bleeding source, giving a chance to a prompt and effective resolution of the cause, in acute and recurrent haemoptysis. Infact in high experienced centers with endoscopic oriented pulmonary units, during the procedures it is possible to treat some bleeding source with argon plasma coagulation, cryotherapy and deploy endobronchial stents [8]. Moreover it's important to highlight some other important usefulness of early bronchoscopy in non-life-threatening haemoptysis: it permits to collect a microbiologic and/or cytomorphologic sample of endobronchial secretions or lesions, with rapid and specific antibiotic administration, and, finally, it allows to visualize potential bleeding causes non detectable with computed tomography (i.e. haemorrhagic tracheobronchitis). Finally, it should be always kept in mind that in hemodynamically stable patients, without contraindications, bronchoscopy is a safe procedure, providing fundamental results despite low risks [10].

In conclusion the role of interventional pulmonology in both the diagnostic and therapeutic aspects of haemopthysis is far to be completely defined. Even if we have to differentiate massive from mild and moderate bleeding it seems to be reasonable to asses that a bronchoscopy (fiberoptic or rigid) can be safely proposed in skilled centers with a wide range of immediate therapeutical interventional options, whether pneumological, either radiological or surgical.

Conflict of interest

The authors declare no conflict of interest.

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