

bronchoscopy, oesophagoscopy, mediastinoscopy and thoracoscopy. When talking about endoscopy only, the access to the chest is not defined. Likewise, an US-guided procedure is linguistically coupled with the route used, such as the transthoracic (TT), endobronchial (EB), or oesophageal (E) route. When performing a bronchoscopy, the correct term is EBUS, when oesophagoscopy is used it is EUS. Earlier articles on EUS used the letter "E" correctly for "oesophageal" or even better "transoesophageal" [5], but, more recently, it has been used for "endoscopic" [1–3, 6], which is incorrect. Sadly, even leading journals have started to accept this change. It is thus not surprising that in the article by RINTOUL *et al.* [3], the title had to start with a misnomer: "Endobronchial and endoscopic ultrasound-guided real-time fine-needle aspiration for mediastinal staging". Is endobronchial not endoscopic?

Unfortunately, the problem is not only a semantic one. Highjacking the "E" in EUS for "endoscopic" implies that "oesophageal" can be equated with "endoscopic", insinuating that the other endoscopic techniques are inferior. In the article by ANNEMA *et al.* [1], which uses oesophageal US-guided sampling of mediastinal nodes for the diagnosis of sarcoidosis, it is stated in the conclusion that endoscopic (they mean oesophageal) US-guided (=EUS) fine-needle aspiration (FNA) should be the next step after a negative bronchoscopy. This conclusion was based on the fact that EUS had an impressive yield of 82% in sarcoidosis patients after a negative bronchoscopy. In their series of 51 patients, however, only 36 had undergone bronchoscopy, and, surprisingly, the reader is not told what was done at bronchoscopy! Bronchoscopy using EBUS-transbronchial needle aspiration (TBNA) might have resulted in the same yield as was obtained by EUS-FNA. To maintain their conclusion, the authors should have compared EUS-FNA prospectively with EBUS-TBNA.

The most important issue in the evolving role of various sampling techniques, however, is to differentiate between situations when the available endoscopic procedures are complementary and when they are competitive. A subcarinal lymph node will be successfully sampled by any endoscopic method; thus, they all compete. Paraoesophageal lymph node stations eight and nine are the undisputed domains of EUS-FNA, just as anterior tracheal or right hilar nodes are the domains of EBUS-TBNA. The choice of the tool to be used lies in the accessibility of the tissue to be sampled, and, among competitive methods, the least invasive one should be chosen. When sampling for benign disease, any tissue delivering the diagnosis is sufficient. In bronchogenic carcinoma, however, diagnosis and endoscopic staging can often be combined [7]. In this situation, bronchoscopy should be the first procedure of choice as it can sample peripheral lesions, screen for synchronous endoscopically visible cancer, and stage all lymph nodes adjacent to the tracheobronchial tree as well.

The evolving consensus, corroborated by the current three studies [1–3], is that the role of both EBUS-TBNA and EUS-FNA will increase, whereas mediastinoscopy will substantially decrease, at least in centres that have the skills and the financial resources to offer EBUS-TBNA and EUS-FNA.

In order to discuss the relative merits of the "new kids on the block", *i.e.* endobronchial ultrasound-guided transbronchial

needle aspiration and oesophageal ultrasound-guided fine-needle aspiration, let's start by getting the terminology right.

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From the authors:

We have read with interest the comments by C.T. Bolliger on the terminology regarding ultrasound-guided biopsies of mediastinal lymph nodes. Obviously, and here we fully agree, there should be a consensus on the nomenclature of a new diagnostic method. The development of echo-endoscopes, which make accurate imaging and real-time controlled biopsies of lesions along the gastro-intestinal tract possible, is regarded as one of the greatest improvements in endoscopy of the last 20 yrs [1]. The name given to this technique was endoscopic ultrasonography or endoscopic ultrasound and was abbreviated as EUS. Depending on the organ under investigation (oesophagus, stomach or rectum), authors have added specific information. The "E" from EUS thus stands for "endosonography" or "endoscopic" and not for "oesophagus", as suggested by C.T. Bolliger. According to his suggestion, how should the well-established term "rectal EUS" be translated? Reviewing the literature specifically on ultrasound (US)-guided biopsies of mediastinal lymph nodes from the oesophagus (using Pubmed), various authors, so far,

have used the following terms: endoscopic ultrasound; endoscopic ultrasonography; endosonography; oesophageal endoscopic ultrasound; endoscopic (oesophageal) ultrasound; endoscopic transoesophageal ultrasound; and transoesophageal endosonography. This only highlights the remark of C.T. Bolliger that agreement on one term is needed. The vast majority of authors translated EUS as "endoscopic ultrasound" or "endosonography" and added in the text, as we did in the March issue of the *European Respiratory Journal* [2], that biopsies were taken from the oesophagus [3]. In our opinion, and again on this point we fully agree with C.T. Bolliger, the term "transoesophageal (endoscopic) ultrasound-guided fine-needle aspiration (EUS-FNA)" qualifies best for the method by which US-guided biopsies of mediastinal lymph nodes or intrapulmonary tumours are taken from the oesophagus.

The second remark by C.T. Bolliger is related to the role of EUS-FNA in diagnosing sarcoidosis. The aim of our study was to assess the yield of EUS-FNA in diagnosing sarcoidosis [2]. Due to the high yield of 82%, we concluded that EUS-FNA, and not mediastinoscopy, should qualify as the next diagnostic procedure after a prior nondiagnostic bronchoscopy. We never wrote nor suggested that this was a comparison study with bronchoscopy and, therefore, the comments on this matter do not seem really relevant to the study. The reason why not all of the patients in our study underwent bronchoscopy prior to EUS-FNA was that several patients and referring physicians preferred an evaluation by EUS-FNA (no complications described in mediastinal lymph node analysis in >1,000 patients) above a bronchoscopy, including transbronchial needle aspiration (TBNA) and transbronchial lung biopsies, due to the risk of a pneumothorax and haemoptysis. In the discussion of our article, we wrote that, in normal practice, the optimal yield of bronchoscopy in diagnosing sarcoidosis is often not achieved due to an inadequate number of transbronchial lung biopsies and under-use of TBNA and, therefore,

suggested that endobronchial ultrasound (EBUS)-guided TBNA might increase the yield of bronchoscopy in the future. We agree with C.T. Bolliger that, for the diagnosis of sarcoidosis, studies using both EUS-FNA and EBUS-TBNA are needed, and we suggest that, besides diagnostic yield, complications and patient satisfaction should be taken into account.

With the increasing availability of the novel diagnostic methods, endoscopic ultrasound-guided fine-needle aspiration and endobronchial ultrasound-guided transbronchial needle aspiration, we expect that the number of patients with suspected sarcoidosis who are referred for mediastinoscopy will decline dramatically. We explicitly welcome any attempts by researchers to comment on novel applications in pulmonary medicine in order to find a consensus on the right nomenclature and, in that sense, we are grateful for the reaction by C.T. Bolliger.

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