

for the treatment of schizophrenia, delusions and manic bipolar disorder [19]. No cases of pleural disease following treatment with olanzapine have been reported so far in the literature. However, several cases of pulmonary adverse events have been described following treatment with clozapine, including subacute diffuse interstitial pneumonitis and exudate pleural effusions, occasionally eosinophilic [20–23]. We have not found a study that could elucidate the immunological mechanisms of these reactions.

In conclusion, eosinophilic pleural effusion is an uncommon disease in which aetiologies are difficult to establish. We must remember that the eosinophilic pleural effusion is not always benign and may be malignant. Drug-induced eosinophilic pleural effusion is a potential aetiology to search and should be considered as it can be treated easily.

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Blind needle biopsy of the pleura: why not?

To the Editor:

We read with great interest the excellent review by JANSSEN [1] in the September issue of the *European Respiratory Review*,

where the author highlights the position of thoracoscopy in the current diagnostic armamentarium of pneumonology and nicely concentrates the up-to-date knowledge in the field.

As a general comment, we would say that thoracoscopy is not a panacea for the diagnosis of pleural effusions; however, the value of blind needle biopsy of the pleura (or closed-pleural biopsy; CPB) may not actually be so limited.

Thoracoscopy is essentially the best way to biopsy the pleura. However, not all diseases that affect the pleura can be diagnosed by pleural biopsy, even with the best techniques. The main histological abnormalities of the pleura that demonstrate disease specificity are those associated with malignant and granulomatous disorders, the most frequent representative of the latter disease category being tuberculosis (TB) [2, 3]. Thus, pleural biopsy (and thoracoscopy) can virtually diagnose two main disorders: malignant pleural effusions (MPEs) and TB pleuritis. In the case that the patient does not suffer from either of them, the pathologist will most probably diagnose "nonspecific pleuritis". Although "not specific", this diagnosis can exclude malignancy because of the high negative predictive value of thoracoscopy for MPEs [4]. This observation highlights another important indication of thoracoscopy, which is the exclusion of malignancy (as well as TB).

In the aforementioned review, comparing the performance of the three main nonsurgical methods of pleural biopsy for the diagnosis of MPEs (table 1 in the review by Janssen [1]), *i.e.* CPB, thoracoscopy and image-guided pleural biopsy (under computed tomography or ultrasound guidance), the inferiority of CPB for this specific purpose is demonstrated (sensitivity 45%). However, for the diagnosis of the other main disorder that can be diagnosed by pleural biopsy, namely TB pleuritis, the performance of both CPB and thoracoscopy is much better (sensitivity 79% and 100% respectively) [5], while to the best of our knowledge there are no available data for image-guided pleural biopsy. Based on the information depicted in this table, the author concludes that CPB "should no longer be used in a setting where image-guided pleural biopsies can be obtained" and that CPB "is only indicated in areas with high incidence of TB and limited medical resources". Although this conclusion might reflect the general opinion regarding CPB, we do not totally agree with this position.

First of all, for the diagnosis of MPEs it is unknown if the suggestion for the usage of image-guided pleural biopsy instead of CPB, which is mainly based on the results of the study by MASKELL *et al.* [6], can be equally applied in less experienced and/or less specialised centres in the field. Before advising pneumonologists to stop performing CPB, we should probably consider whether all radiologists are trained to obtain image-guided pleural biopsies and if they will be available when we need them.

Regarding thoracoscopy, not all patients with an MPE are appropriate candidates for this method. Poor performance status, severe dyspnoea or significant pain due to bone metastases, that does not allow the patient to obtain the typical body position for thoracoscopy, might be indications for a more conservative approach. The alternative of CPB might then be offered if tissue information is considered necessary for the patient's further work-up. For these individual cases, a diagnostic sensitivity of 45% for CPB, although "low" compared to 95% for thoracoscopy, might still be a reasonable option. If 45% of patients with MPE are

expected to gain some benefit from this technique then, why not try?

In comparison to thoracoscopy, CPB is much less invasive, less painful and perhaps more tolerable from the patient's perspective. In fact, CPB is not very different from a simple thoracentesis regarding the technique itself, as well as the overall complications. Its great advantage of simplicity and negligible complication rate may save time and effort for the medical staff and discomfort for patients. These benefits are unequivocally important, especially in patients who suffer from malignancy and have a limited life expectancy. Obviously, CPB should not be considered as an equal alternative of thoracoscopy. However, it could be performed as a complementary technique in the context of diagnostic or therapeutic thoracentesis. Indeed, some of these interventions, at times, may precede the decision for thoracoscopy, as it is important to evaluate the rate of recurrence of the pleural fluid or if lung re-expansion is possible.

In the case of TB pleuritis the option of CPB might be even stronger because of its high diagnostic sensitivity, which in some studies approximates that of thoracoscopy [7]. In view of these data, one might choose to perform CPB before proceeding to thoracoscopy in a case suspicious for TB, and this approach might be acceptable in both high- and low-incident areas. In our clinic we have performed thoracoscopy for the past 6 yrs, with the main indication being that of undiagnosed pleural effusions. Unfortunately, we have not had the opportunity to thoracoscopically diagnose a TB pleuritis, as the few patients we had were diagnosed by CPB. And we do not believe we did wrong. However, it should always be stressed that even for TB, in case of a nondiagnostic CPB, the best answer remains thoracoscopy.

In addition to all the aforementioned issues, there are two more different but equally important parameters. The first is that of the patient's preferences. If the patient does not wish to be involved in thoracoscopy then other options should be available, including blind needle biopsy. The second has to do with the training of chest physicians. If tertiary hospitals, which are usually responsible for the training of the new specialists in pulmonary medicine, choose to eliminate CPB from their diagnostic tools, then the newer generations of pneumonologists will not be familiar with this technique at all. This means that in the near future the pneumonologists who are going to staff hospitals "with limited resources" will actually not be able to perform pleural biopsies. In that case, will the surgeons diagnose TB for us or should we proceed into patients' transfers between hospitals to obtain a small piece of tissue?

In conclusion, we believe that sensitivity alone might not be the only criterion for a physician to opt for a diagnostic test. Pneumonologists should ideally master the full spectrum of the available diagnostic methods in their field and then choose the most feasible option for their patients on a case by case basis.

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From the author:

I thank K. Psathakis and V. Skouras for their detailed comments. Although it has been demonstrated that the additional diagnostic yield of blind-pleural biopsy in the diagnosis of malignant pleural effusion to thoracocentesis is limited to 7%, some pulmonary physicians persist in using this technique, also in countries with low prevalence of tuberculosis.

In my article, I stated that “Closed pleural biopsy should no longer be used in a setting where image-guided pleural biopsies can be obtained.” In my opinion, this statement is true for modern medicine in general. An image-guided technique, if available, is preferred over a blind procedure to obtain tissue for a histological diagnosis.

If in a situation that is getting rare in Europe and throughout the western world, thoracoscopy or image-guided biopsy facilities (computed tomography or ultrasound) are not available, closed pleural biopsy may be performed to obtain a diagnosis. Because of the poor results of this technique, and the general availability of three better options, closed pleural biopsy has been eliminated from the training programme of chest physicians in my hospital.

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