

LETTERS TO THE EDITOR

**Diagnostic approaches in tuberculous lymphadenitis<sup>☆</sup>**

**Abordagem diagnóstica na tuberculose ganglionar**

To the Editor:

Lymphadenopathy is the most common form of extrapulmonary tuberculosis (EPTB).<sup>1</sup>

Diagnosis of EPTB may not be easy, given the lack of specific presentation, the need for tissue sampling, the lack of accessible tissue, non-specific pathological findings and the relatively low microbiological yield.

The aim of our study was to review the diagnostic approaches to tuberculosis (TB) lymphadenitis.

All TB lymphadenitis cases treated in an urban Chest Disease Center in Portugal, from 2003 to 2010, were reviewed. Patients were referred after diagnosis, either to start or continue treatment. They all had a positive response to anti-bacillary treatment.

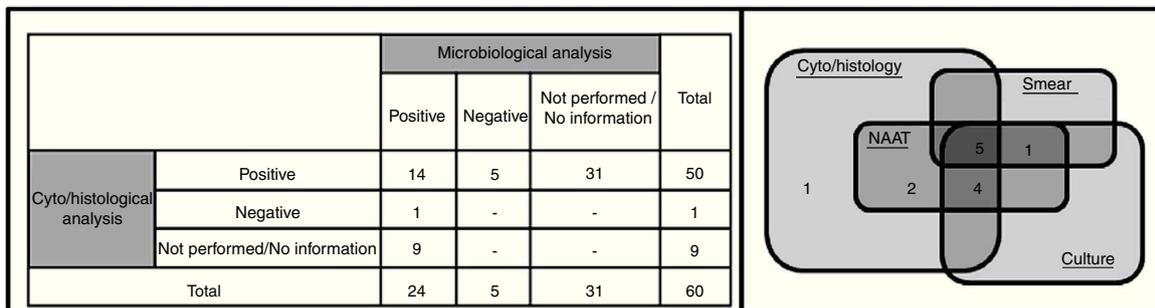
Positive cyto/histological results were defined as findings of histological features compatible with TB<sup>2</sup> (granulomatous inflammation and epithelioid cells with/without Langhans cells, caseous necrosis or positive Ziehl–Nielsen stain in lymph node (LN) samples). Positive microbiological results

were defined as positive results on smear, culture or nucleic acid amplification test (NAAT).

We received 60 patients with TB lymphadenitis, 26 male and 34 female, with a mean age of 52.9 ± 20.8 years. They were all tested for human immunodeficiency virus (HIV) and 8 tested positive. Collection of LN tissue was performed through fine-needle-aspiration cytology (FNAC) in 34 (56.7%) and through excision in 24 (40%). For 2 patients there was no information.

A cyto/histological analysis was performed on 51/53 patients (there was no information on 7), which was positive for 50/51 (98%) (Fig. 1). A microbiological analysis was performed on 29/59 (no information on 1 patient), which was positive in 24 (82.8%). A positive smear was found in 14/29 (48.3%), positive culture in 19/28 (67.9%) and positive NAAT in 14/16 (87.5%) (Fig. 1). No differences were found between the microbiologically tested group and other patients, in terms of sex, age, HIV-infection, previous TB and recent TB contact. No differences in diagnostic yield were found between FNAC and excision.

It becomes clear that in the approach to lymphadenitis it is still not routine to send LN samples for both cyto/histological and microbiological analyses. Since the diagnostic process was not conducted in our center, it is not possible to exclude the presence of bias on the cohort that was microbiologically assessed, whether these patients had a higher suspicion for TB or not.



**Figure 1** Diagnostic approaches and results in all included TB lymphadenitis patients (n=60) (left) and a venn-type diagram including only patients who performed all analyses (n=13) (right).

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Culture for *Mycobacterium tuberculosis* is the primary diagnostic standard,<sup>3</sup> not only for diagnosis, but also to provide information about drug susceptibility. However, it is time-consuming and sensitivity is not very high (43–88%).<sup>3</sup> When cyto/histological analysis is combined with smear and culture results the diagnostic efficacy of NAAT did not improve. However, there are some important advantages of NAAT, such as immediate response, high specificity<sup>3,4</sup> and the possibility of molecular resistance tests, when drug resistance is suspected.<sup>5</sup>

These results strengthen the case for increased suspicion of TB lymphadenitis and for utilization of a combination of cytology/histology and microbiology in diagnostic approaches to lymphadenitis.

## Ethical disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data and that all the patients included in the study received sufficient information and gave their written informed consent to participate in the study.

**Right to privacy and informed consent.** The authors declare that no patient data appear in this article.

## Conflicts of interest

The authors have no conflicts of interest to declare.

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## Unexplained pulmonary hypertension in peritoneal dialysis and hemodialysis patients

### Hipertensão pulmonar inexplicável em pacientes em diálise peritoneal e hemodiálise

Dear Editor,

We read with great interest the nice article by Etemadi and colleagues, in your journal, *Revista Portuguesa de Pneumologia*, entitled “Unexplained pulmonary hypertension in peritoneal dialysis and hemodialysis patients”.<sup>1</sup> In a retrospective study of chronic hemodialysis and peritoneal dialysis patients, pulmonary hypertension was found in 14 (41.1%) patients of the hemodialysis group and in 6 (18.7%) patients of the peritoneal dialysis group, where

pulmonary hypertension was defined as a systolic pulmonary artery pressure (SPAP)  $\geq$  35 mmHg. They concluded that unexplained pulmonary hypertension seems to be more frequent in patients undergoing hemodialysis than with patients in the peritoneal dialysis group. In this context, I would like to make a few points about pulmonary hypertension in dialysis patients. In a study of 102 maintenance hemodialysis patients, we found pulmonary artery pressure of  $41.5 \pm 12.6$  mmHg. In our study, 76.5% of hemodialysis patients had SPAP = 35 mmHg. In this study we can also see that pulmonary artery pressure had significant positive correlation with the duration and degree of hemodialysis.<sup>2</sup> In another study we also observed that pulmonary artery pressure had significant positive correlation with serum intact parathormone.<sup>3</sup> Pulmonary arterial hypertension is a serious cardiac complication among patients with end-stage kidney disease, especially patients on hemodialysis as mentioned in the study by Etemadi et al., and we need to look for other aggravating factors among dialysis patients.<sup>3–5</sup> In order to achieve better understanding about this aspect of dialysis patients, more clinical studies are suggested.

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