

Role of pleural transthoracic ultrasound guidance

Sir,

We read with interest the article by Ferreiro *et al.*,^[1] recently published in your journal, focused on the correct management of pleural malignant effusions.

We absolutely agree that thoracentesis is one of the first approaches in pleural malignant effusions. However, procedure-related complications with transthoracic ultrasound (TUS) guidance are less frequent than reported in the review. We have performed 3870 drainages in the last 10 year with TUS guidance.^[2] A diagnosis of malignant effusion was done in 630 patients (18%) with cytology on fluid samples. The rate of major complications was low: only four patients (0.1%) had iatrogenic pneumothorax (three showed partial pneumothorax and one subtotal pneumothorax; with full lung reexpansion in each case), and two patients had reexpansion lung edema.^[2]

Under TUS guidance, it is also possible to determine the real-time characteristics of pleural effusion.^[3] Indeed, accordingly to the US pattern of pleural effusion (anechoic, complex nonloculated, complex loculated, and homogeneously hyperechoic) [Figure 1], it is possible to choose the right needle size, i.e., generally an atraumatic 20-gauge and to use a low-flow and low-pressure

aspiration system.^[3] Moreover, it is advisable the use of dedicated probe, i.e., with a central hole through which the needle set is introduced.^[4]

One of the most relevant advantages of US guidance is the real-time needle visualization during the procedure.^[4] In this way, the physician can retract the needle during lung reexpansion, avoiding pneumothorax, and hemothorax [Figure 2].

TUS guidance is the primary procedure in the pleural fine needle aspiration biopsy (FNAB).^[5] It allows us to perform a step-by-step FNAB with more ease and advantages in comparison with blind or computed tomography scan-guided biopsies.^[5] Moreover, the FNAB-dedicated probes allow the physician to reach the lesion under the coaxial view, getting specimens of length, thickness, and quality adequate for pathology assessment.^[5]

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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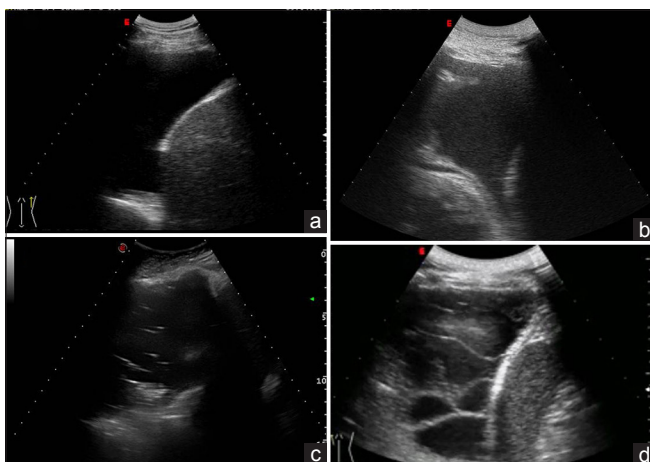


Figure 1: Transthoracic ultrasound pleural effusion patterns: (a) anechoic, (b) homogeneously hyperechoic, (c) complex nonloculated, (d) complex loculated

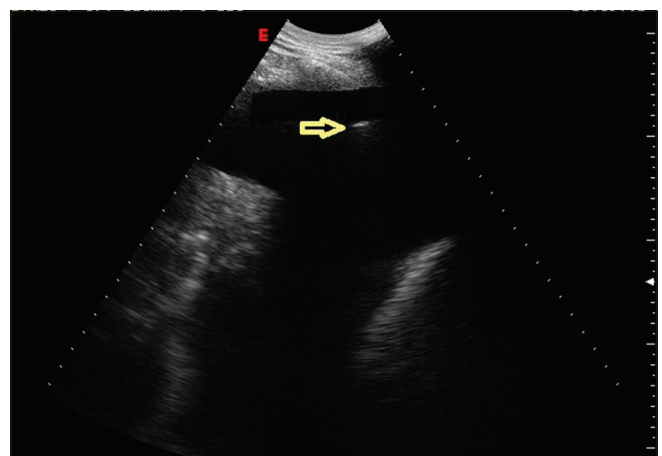


Figure 2: During transthoracic ultrasound-guided thoracentesis, the physician can check the needle position throughout the procedure (yellow arrow)

References

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Website:

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DOI:

10.4103/atm.ATM_77_17

How to cite this article: Tinti MG, Frongillo E, Sperandeo M. Role of pleural transthoracic ultrasound guidance. *Ann Thorac Med* 2017;12:216-7.

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