A 1-year-old boy was brought to the pediatric emergency department (ED) of our hospital with a 7-day history of fever and fatigue. On physical examination, the patient was found to be febrile and in good clinical condition, with plaintive crying and a mild tachypnea.

The ED physician performed a lung point-of-care ultrasound (POCUS) using a high-frequency (5–10 MHz) linear probe. This revealed a round, well-demarcated consolidation measuring 2.9 × 1.1 cm, with a rough pleural line in the mid-apical section of the right lung. The appearance of the structure on US was as a thin echogenic capsule with an anechogenic core and some fibrous septa, which is consistent with pulmonary abscess (Fig. 1a). Color Doppler evaluation revealed no inner vascularity. A small curvilinear probe (2–5 MHz) was positioned in the supraclavicular space to better evaluate the upper lobe of the right lung and the contents of the abscess (Fig. 1b).

A chest X-ray was performed, highlighting only a large round area of consolidation in the right upper lobe without pleural effusion. Computed tomography (CT) scan confirmed the diagnosis of lung abscess.

1. Discussion

Lung abscess is a necrotic cavitary lesion of the lung parenchyma with a fluid inside. It is a serious complication of community acquired pneumonia in children.

Although chest radiography and CT are mandatory procedures to diagnose pulmonary abscess, POCUS is a useful tool, especially in the ED.

US findings include a blurred outer margin, an irregular wall width, an oval/round shape, an acute angle between the opposition of the pleura and the lesion (termed an acute chest wall angle), and a retained pleural opposition without separation, as shown in our case. This is the second case reporting the use of POCUS for the diagnosis of pulmonary abscess in children. As confirmed by our case, POCUS is a reliable, noninvasive, and radiation-free tool; it is a bedside technique, that can be performed easily by a trained ED physician, thus making it useful mainly when a radiology consultant is not immediately available.
Declaration of competing interest
No conflict to declare.

References

