

Author's contribution

Glenio B. Mizubuti and Anthony M.-H. Ho both conceived, drafted and critically revised the manuscript, and approved the final version submitted for publication in the Brazilian Journal of Anesthesiology.

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Conflicts of interest

The authors declare no conflicts of interest.

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Lung exclusion in neonates - techniques and the role of ultrasound



Exclusão pulmonar em neonatos - técnicas e o papel do ultrassom

Dear Editor,

We carefully read the comments and suggestions given by Mizubuti et al. and appreciate the interest shown in our article and the excellent review on lung Ultrasound (US). We would like to discuss some of the issues raised.¹

As stated, lung US provides an added value in confirming the position of the Endotracheal Tube (ETT), but as we said in our report, there are some limitations on its use being one of them, the presence of pneumothorax. Lung sliding confirms the apposition of both visceral and parietal pleurae and ventilation (as there is movement between them). Lung pulse also confirms the apposition of both pleurae, thus excluding pneumothorax, and rules out ventilation, as there is no movement between them, being a good signal of endobronchial intubation.^{2,3}

Concerning the question of coupling a 3 mm orotracheal tube with a Bronchial Blocker (BB), bronchial blockers should be placed under fibroscope view, and we should bear in mind that due to the small diameter of the ETT, during the fibroscope use, poor or no ventilation will be possible. Although this is our technique of choice in infants and small children for left lung exclusion, unfortunately, our smallest fibroscope available is 2.8mm. This precluded the use of this technique in our case, as a 3.5 mm ETT plus BB outside the ETT would be too large for a neonate trachea. We suggest the use of the CT scan to determine the trachea and main

bronchus diameter and prevent the use of a too big ETT or ETT + BB combination, though not completely ruling out the risk of injury.⁴

In our case report, lung exclusion was performed using a single-lumen endotracheal tube and we agree that this is not the ideal lung exclusion technique and has several disadvantages as we pointed out in our report. One of which, as highlighted by Mizubuti et al., would be the possible exclusion of the right upper lobe orifice if it was positioned above or very close to the carina. A problem that we might not be able to overcome also using an extraluminal BB on the right main bronchus.⁵ Aiming to confirm the right upper lobe ventilation, we needed a more accurate method than auscultation and the US arises as a more reliable and precise technique.²

The risk of bronchial injury and even tracheomalacia in the case of bronchial intubation should always be considered, especially in neonates. The possible need to reposition of the ETT may be more cumbersome and cause tracheo-bronchial injuries, however, we cannot ignore that this problem happens even with the use of BB. Bronchial blocker insufflation may cause excessive pressure on the bronchial mucosa, which may be a concern, especially in longer surgeries.⁵

Nevertheless, we agree that the technique proposed by Mizubuti et al. would also be a good option for OLV in neonates. Still, there is little evidence on the best technique for OLV in neonates and infants, as most of our knowledge comes from case reports and case series.

Author's contributions

Both authors drafted and revised the manuscript and approved the final version for publication.

Conflicts of interest

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