

Application of an anti-aerosol box for esophagogastroduodenoscopy during the COVID-19 pandemic: double up the protection

Malaysia currently has the highest number of COVID-19 cases in Southeast Asia. As of 15 April 2020, Malaysia's cumulative case number stood at 5072, with 83 deaths [1]. Because endoscopy is considered to be an aerosol- and droplet-generating procedure and SARS-CoV-2 may be present in aerosol particles for up to 3 hours [2], enormous preparations have been made to set up a safe and functioning endoscopy service, which is in line with the suggestions of Zhang et al. [3] and the European guideline [4]. Inspired by an "aerosol box" invented by a Taiwanese anesthesiologist, we have designed a modified version for the esophagogastroduodenoscopy (EGD) procedure. This box, which was built with acrylic sheets (50×50×50 cm), has an opening at the caudal end (with a disposable transparent plastic cover) and one round opening (10-cm diameter) at the cranial end. On the side of the assistant, there are another two openings (10-cm diameter), while a larger opening (27×27 cm) has been created on the side of the endoscopist (covered with thick cling film, with a port made for insertion of the endoscope). A polypropylene-based

non-woven material (with an elastic band at the inner end) is attached to the two small openings, in order to prevent any escape of droplets. All these fabrics and cling film are intended for single use only (► Fig. 1).

This box is different from the intubation aerosol box in terms of its design, feasibility, and utility. The endoscope opening was designed for easy maneuverability of the endoscope, especially during therapeutic procedures. The box is also specifically designed to fit a ventilated patient as there is an opening created to accommodate ventilator breathing tubes.

Together with the use of standard personal protective equipment, we hope this box will double up our protection against infected microdroplets and aerosolized particles during this challenging COVID-19 pandemic.

Competing interests

The authors declare that they have no conflict of interest.

The authors

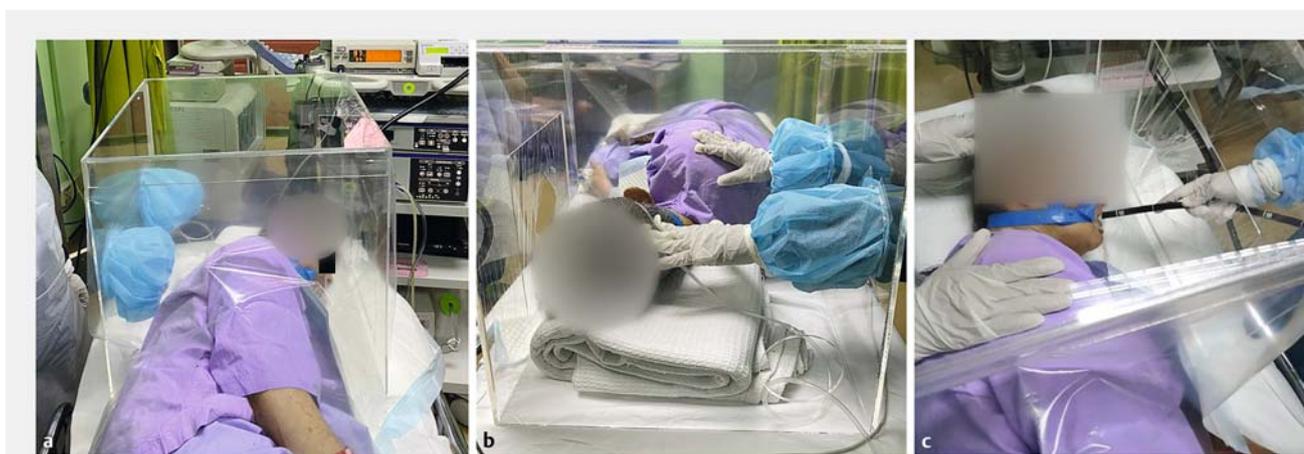
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► Fig. 1 The anti-aerosol box being used to double up protection during an esophagogastroduodenoscopy procedure.

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