Protective barrier enclosure during upper gastrointestinal endoscopy

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DEAR EDITOR,

All endoscopies are aerosol-generating procedures (AGPs), and the surrounding surfaces in the procedure room can potentially become contaminated.[1] According to the European Society of Gastrointestinal Endoscopy (ESGE) guideline,[2] personal protective equipment (PPE) is to be worn for all procedures, and the components vary according to patient's risk stratification. Without adequate PPE, all nonemergent endoscopies should be postponed.

We have designed a plastic shield device named "Aerosol Box" to contain aerosolization and protect clinicians during airway procedures. The box is a simple, low-cost, easy to disinfect transparent cube made of polyacrylic or polycarbonate. It covers the patient's head and neck, and the front panel has two holes to allow clinicians to insert their arms to perform the procedure.[3]

We modified the box (Fig. 1) to suit its applicability in upper gastrointestinal (GI) endoscopy. For upper GI endoscopy, we have made the following modifications to improve patient safety, maximize aerosol protection for staff, optimize operator ergonomics, and increase its utility for AGPs. The modified box has ports on both side panels of the box: the left port for the passage of an endoscope, and the right port for attachment of suction or vacuum device. A transparent plastic drape is attached to the patient's side of the box (Fig. 1). This provides additional protection to staff in front of the patient and enabling a rudimentary negative pressure chamber to be created with the application of suction or vacuum via the side port. The anesthesiologist stands at the head of the bed to assist through the armholes.

We found that in upper GI endoscopy, this device does not interfere with the performance of the operator and provides additional staff protection without compromising patient safety.

Fig. 1. A demonstration of protective barrier enclosure during upper gastrointestinal endoscopy.

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Conflicts of interest: The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

Journal of Chinese Medical Association. (2020) 83: 972.

Received July 21, 2020; accepted July 22, 2020.

doi: 10.1097/JCMA.0000000000000410.

<zdoi: 10.1097/JCMA.0000000000000410>