

Laparoscopic port as an integral component of endoscopy mask: A novel innovation!

Sir,

Gastrointestinal (GI) endoscopic procedures and awake fiberoptic bronchoscope (FOB)-guided intubation usually require sedation. A subset of population requiring these modalities are known to have altered pharmacokinetics and are very sensitive towards respiratory depressant actions of sedative drugs, owing to the nature of their disease or age.

A retrospective analysis on 73,989 GI endoscopic procedures done under sedation at three centres over a period of 5 years found that endoscopic retrograde cholangiopancreatography was the procedure type that was most commonly associated with sedation-related complications.^[1]

The majority of sedation-related adverse events are cardiorespiratory in nature. Such situations warrant airway rescue measures ranging from bag and mask ventilation (BMV) to endotracheal intubation resulting

in inadvertent delays or even abandonment of the planned endoscopy procedure.

FOB-guided intubation has a considerable learning curve prompting its training in apnoeic or deeply sedated patients, which in turn has its own implications. FOB in such scenarios is greatly facilitated by the use of endoscopy masks which are designed to allow BMV during the endoscopic procedure or prolonged attempts at FOB-guided intubation. A number of such masks are available which have a more or less common design namely a standard mask with a 22 mm central port and one to three ports of varying dimensions for introducing FOB or endoscope. Some have provision for intubation and end-tidal CO₂ monitoring.^[2,3] However, the price is the principal deterrent to their widespread use.

We describe an endoscopy mask assembled with the components commonly available in the operating rooms. The components of this device [Figure 1a] include a connector (22F/22F), a T-piece with two 22 mm port and one 22 mm port filed to reduce its diameter to 18 mm and a 5–12 mm laparoscopic port with bladeless trocar and sleeve removed. One of the 22 mm ports of T-piece is connected to the standard 22F aperture of a transparent facemask. Laparoscopic port mounts vertically on the filed 18 mm port of T-piece. The other 22 mm port of T-piece is connected to anaesthesia



Figure 1: (a) Components, (b) assembly of components for endoscope mask

circuit through a 22F/22F connector [Figure 1b]. The use of this assembly can be made operator friendly using a mask harness. Upper GI endoscopy and at times FOB can take longer than expected, BMV in such a scenario could be ably aided by a mask harness.

While performing FOB, one operator can stand at the head end and the other operator while standing opposite to him, can perform BMV using Esmarch–Heiberg manoeuvre (two-hand technique). However, this will require a third operator or the use of anaesthesia workstation in ventilator mode. Mask harness will provide a definite advantage in reducing the number of operators and operator fatigue. The device can be utilised to serve the purpose of BMV during FOB guided intubation and upper GI endoscopy. The entire assembly, in fact, is very economical since it employs ethylene oxide sterilised laparoscopic port, T-piece costing around 60 rupees and a universal connector around 100 rupees. Compared to this, endoscopy masks available in the market can cost anywhere between 5000 and 11,000 rupees. The laparoscopic port is central to this device. The port has an internal diameter of 20 mm and is used for gas insufflation and to pass laparoscopic instruments with a diameter ranging from 5 mm to 12 mm. The dimensions of this port support the intended use of various endoscopes, endotracheal tubes, FOB and provide stability during instrumentation [Figure 2a and b].

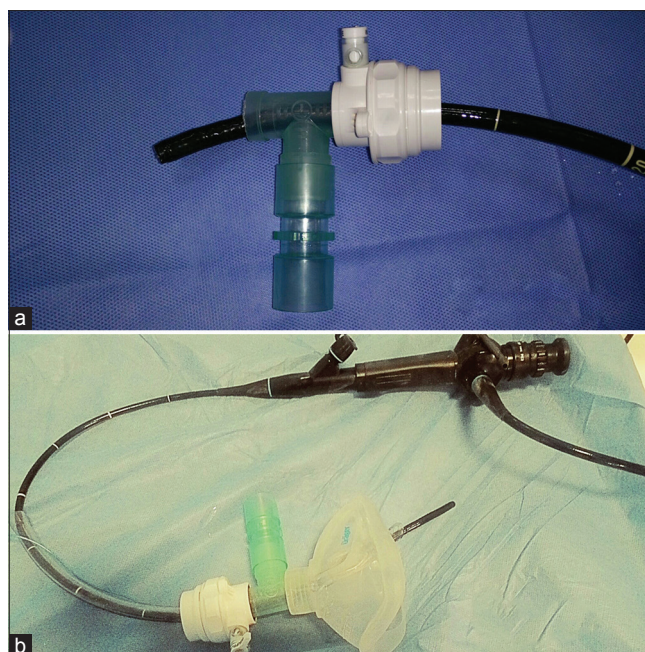


Figure 2: (a) Endoscope passing through assembly, (b) endotracheal tube railroaded over fiberoptic bronchoscope and passing through assembly

These components are easy to assemble and disassemble without damaging the individual components, endoscopes or endotracheal tubes. Limitation of this mask for FOB guided intubation is that it can only be used with endotracheal tubes whose connectors can be disconnected. We have successfully tested this device on the manikins available at the simulation laboratory of our centre. Our innovation with the equipment commonly available in the operating rooms is just right to fill in the plug and could go a long way in the training of FOB guided intubation.

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Conflicts of interest

There are no conflicts of interest.

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REFERENCES

1. Zakeri N, Coda S, Webster S, Howson W, Thillainayagam AV. Risk factors for endoscopic sedation reversal events: A five-year retrospective study. *Frontline Gastroenterol*. 2015; 6(4):270-77.
2. Intersurgical. Product Information Sheet No. IS5.18. Issue 311.12. Available from: <http://www.intersurgical.com/products/anaesthesia/explorer-endoscopy-masks/uploads>. [Last accessed 2016 Jan 16].
3. Curaplex. Product Over View Brochure. Panoramic Oxygen Mask. Available from: http://www.curaplex.com/docs/pom/Curaplex_POM_Brochure.pdf. [Last accessed on 2016 Jan 17].

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