Brief Communication

Device for centralisation during fibrescope-guided orotracheal intubation. An i-gel® innovation

INTRODUCTION

During oropharyngeal fibrescope assisted intubation, staying in the midline is of vital importance. In an awake intubation, there is also a possibility of the patient biting the fibrescope. The Ovassapian airway or Berman airway and bite blocks are usually used to protect the fibrescope.[1,2] The i-gel® (Intersurgical Ltd, Wokingham, UK), which is a widely available supraglottic device, has gained rapid popularity around the globe. We wish to suggest an innovation using the i-gel®, as a device to aid oropharyngeal fibrescope assisted intubations.

METHOD

A fresh i-gel® may be cut through and through as shown in Figure 1. The length at which the i-gel® needs to be cut is determined by the structure of the i-gel®. The proximal portion of the i-gel® has two parts: a hard portion to which a breathing circuit is attached and a softer distal gel part. We cut the i-gel® about two centimetres beyond the point where the hard proximal portion of i-gel® ends. The distal gel portion thus encases this hard part and extends about 2 centimetres beyond. This terminal edge which is softer and in the gel portion is then smoothened off. All patients are explained about the procedure and written consent is taken explaining all risks and benefits. We then insert the modified i-gel® inside oral cavity and proceed for intubation. Once the cut i-gel® is inserted in the mouth, it may be secured using a tape as may be seen in the Figure 1. The i-gel® has an integrated bite block which is of advantage in awake patients. We recommend taping this integrated bite block area with a adhesive tape which adds grip and prevents slipping of the device during the procedure. It also helps in keeping the device in place. An endotracheal tube is preloaded on the fibrescope which is inserted through the i-gel®. Concomitantly, a catheter may be introduced through the gastric port for suctioning or providing 10 to 15 litres of oxygen.

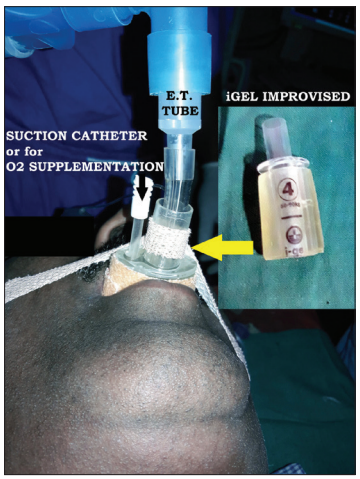

Figure 1: Shows the cut end of i-gel® and its use as a conduit for oropharyngeal intubation. Please note the utility of the gastric port for suctioning and for supplemental oxygen delivery

DISCUSSION

When fibrescope-guided orotracheal intubation is indicated, we have effectively managed the procedure using the innovation utilising i-gel® size 5 in adults and size 4 in small patients, as described above. It serves the purpose of a medialisation device which also acts effectively as a bite block. This is especially important in awake patients. The i-gel® may require to be pulled up or pushed down as a troubleshooting manoeuvre when good views are not being obtained. The hard portion of the proximal i-gel® may also slip within the softer gel portion in some cases; however, we recommend moving whole of this modified i-gel®, which includes the hard as well as soft gel portions to ensure a good view. We prefer largest size i-gel® in adults because larger the size of i-gel®, better is the fit in the mouth and a larger size of endotracheal tube may be inserted through it. It is particularly useful in awake patients where chances of biting are high. It has proved to be most useful in awake patients although requirement of good local oropharyngeal anaesthesia cannot be overemphasised.

The i-gel® has few features which increase its utility for the purpose as indicated above. Its gastric channel is used for suctioning and to provide high flow oxygen through a suction catheter during intubation attempts. We normally place a suction catheter through this gastric channel and attach an oxygen source with oxygen flows above 15 litres per minute.[3] In cases where suctioning is required, fibrescope suction port is utilised. Alternatively, the suction catheter may be introduced by the side of the i-gel® though it is rarely required if anti-sialagogues have been administered before procedure.[4] The distal gel portion is soft and makes the device less traumatic for the patient even

with repeated manipulations. The arrangement has been tried in more than thirty patients at our centre, however studies are required to compare its utility with respect to other equipment for this purpose. Further studies are also required to ascertain the ideal length where an i-gel® needs to be cut. We also noted requirement of jaw thrust in many patients using this innovation. Once intubated, the whole arrangement may be removed as is normally done when i-gel® is used as a conduit for intubation. It is easier to remove the modified i-gel® as compared to the full i-gel® because of the smaller intra oral length.

CONCLUSION

A modified i-gel® may act as an effective centralising device for fibrescope assisted orotracheal intubation especially in awake patients. An integrated bite block and the gastric port through which co-oxygenation is done, adds to its advantages.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Nishant Sahay, Umesh Kumar Bhadani, Ravi Singh

Department of Anesthesiology, AIIMS, Patna, Bihar, India

Address for correspondence:
Dr. Nishant Sahay,
110, Type 5 Block 2, AIIMS, Residential Area,
Khagaul - 801 105, Patna, Bihar, India.
E-mail: nishantsahay@gmail.com

Received: 31st July, 2019
Revision: 18th August, 2019
Accepted: 08th October, 2019
Publication: 08th November, 2019

REFERENCES

1. Ovassapian A. Fiberoptic tracheal intubation in adults. In: Ovassapian A, editor. Fiberoptic Endoscopy and the Difficult Airway. 2nd ed. Philadelphia: Lippincott-Raven Publishers; 1996. p. 71-103.
2. Chou H, Ruan S, Wu H. Identifying and managing a malpositioned endotracheal tube bite block in an orotracheally intubated patient. Medicine 2016;95:e3161.
3. Seeley J, Pearson K, Baxter A. Presumed air entrainment through the gastric port of a paediatric i-gel device. Anaesthesia 2017;72:262-3.
4. Bernstein C, Waters J, Torjman M, Ritter D. Preoperative glycopyrrolate: Oral, intramuscular, or intravenous administration. J Clin Anesth 1996;8:515-8.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.IJA_582_19

How to cite this article: Sahay N, Bhadani UK, Singh R. Device for centralisation during fibrescope guided orotracheal intubation. An i-gel® innovation. Indian J Anaesth 2019;63:945-6.