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LETTERS TO THE EDITOR

Fastrach™ Intubating Laryngeal Mask for traumatic cervical spinal cord injury☆

Mascarilla laríngea para intubación Fastrach™ en la lesión medular cervical postraumática

Dear Editor,

Galeiras Vázquez et al. make an excellent review of post-traumatic spinal cord injuries, but we do not agree on the recommendation to use first the Airtraq® device as an alternative to direct laryngoscopy, or the statement that there is a lack of evidence confirming the utility of other devices.[1]

They stand for the use of Airtraq® in one meta-analysis of 24 trials that compared different devices that may be an alternative to the Macintosh laryngoscope blade.[2] In all the trials, the operator is an experienced anesthesiologist, and there are zero patients with difficult intubations – something that could be expected, included in the trials; both facts are far from the actual clinical scenario of post-traumatic spinal cord injuries: polytraumas that require the isolation of the airway in the extra-hospital setting, or hospital emergency services by doctors who are not anesthesiologists; and that require urgent care which, given their adverse physiological conditions, makes patient's airway extremely difficult to handle. Also, an obvious limitation reported in this device and video laryngoscopes, in general, is the loss of visualization due to the blood and secretions occupying the lens – a common thing in these patients.

Contrary to all this, the Fastrach™ intubating laryngeal mask is widely used in all extra-hospital and hospital ERs, and there are multiple studies confirming high rates of success in the ventilation and blind intubation procedures performed by medical sand non-medical staff with and without prior training.[3]

Out of the 24 trials included in the aforementioned meta-analysis, only the study conducted by Gercek et al.[4] includes the Fastrach™ and shows less movement of the cervical spine and shorter intubation times than what has been reported with direct laryngoscopy procedures, while exposing its utility for the management of airways after spinal cord injuries.

So far, the reviews that advise against the use of supraglottic devices while managing potential or confirmed cervical spinal cord injuries are based on the conclusions drawn by a study conducted by Keller et al.[5] that shows an increased pressure against the cervical vertebrae. The study included 20 cadavers but, as the authors say, the model cannot be extrapolated to physiological conditions due to the lower temperature and higher rigidity of the pharyngeal musculature. We should add here that in all cadavers, the size 5 Fastrach™ blade was used (recommended for patients weighing around 70–100 kg), when the authors describe that their study population weight was in the 50–93 kg range. This means that there is an undetermined number of cases where bigger sizes are being used with the corresponding risk of tissue lesion, and intubation failure, and probably another contributing factor for the negative results reported in such study.

We believe that the Fastrach™ intubating laryngeal mask is a safe and widely used device that can be used for ventilation and intubation of patients with suspected or confirmed cervical spinal cord injuries.

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In reply to ''Fastrach™ intubating laryngeal mask for traumatic cervical spinal cord injury''☆

En respuesta a «Mascarilla laríngea para intubación Fastrach® en la lesión medular cervical postraumática»

Dear Editor,

It has taken decades to develop and refine the main principles for the stabilization of the cervical spinal cord in patients with suspected or confirmed cervical damage. Under urgent circumstances in the extra-hospital setting, the endotracheal intubation is preferred over the ventilation with Ambu bag, or cricothyroidotomy. The in-line stabilization of the cervical spinal cord guarantees safe intubations when conducted through direct laryngoscopy. In the critical care and emergency settings it is advisable to have a good theoretical and practical command of five (5) basic instrumental modalities: the facial mask, one direct laryngoscope and its complements, one indirect laryngoscope/video laryngoscope, one extraglottic device (being the Fastrach® laryngeal mask the most efficient of all), and one technique with urgent subglottic access for non-intubable and non-ventilable patients. There is a double target here: be able to stop the progressive drop of SpO_2 levels until reaching dramatic values and be ''ready to fail''.

Even when the manual in-line stabilization is being used, the intubation with laryngeal mask exerts forces to the cervical spinal cord that are different from the ones exerted by the direct laryngoscopy. Sawin et al.[1] showed that the direct laryngoscopy elongates every cervical segment, particularly at atlantoaxial level. A study conducted by Kihara et al.[2] showed that intubations with laryngeal masks produce the flexion and posterior displacement of the cervical spine cord even when the manual in-line stabilization is being used. Keller et al.[3] and Brimacombe et al.[4] used cadavers to study the forces exerted during intubations with laryngeal masks with and without manual in-line stabilization of the cervical spinal cord, respectively, and confirmed the presence of posterior displacement.

These recent findings can have several clinical implications. Sawin et al.[1] speculate with the possibility that the direct laryngoscopy can be potentially more harmful in patients whose cervical segments are more unstable when elongated, while Kihara et al.[2] believe that intubations with laryngeal masks can be more harmful in patients whose necks are unstable on flexion – the most common lesion. But these risks have not been quantified yet, and the priorities during the management of the airways, in urgent situations, in patients with real or potential cervical spinal cord injuries are the ventilation and protection of such airways. The direct laryngoscopy is still the technique of choice for urgent intubations in most of these patients who suffer flexion injuries in their necks. This technique is faster, less affected by the application of cricoid pressure, and less likely to negatively damage the biomechanics of the neck commonly hurt by flexion. We would consider the intubation with laryngeal mask as the first option for the urgent endotracheal intubation of patients with a known mechanism of neck injury resulting from excessive elongation. We would use the intubation with laryngeal mask as a second option for the tracheal intubation of patients when the direct laryngoscopy has failed to succeed. Yet this requires not only the immediate availability of the device, but also training on how to use it – two requirements that are not always present.

However, the indirect methods of intubation cause less cervical movements than conventional laryngoscopies, and today they are preferred during the elective intubation of patients at risk of cervical spine cord injuries, because they allow intubations in neutral positions, improve the field of view of the glottal region, and minimize laryngeal traumas.

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