Laryngoscope-assisted LMA placement after initial failure with standard LMA technique.

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Laryngeal Mask Airways (LMA) was first introduced in the 1980s by Dr. Archie Brain initially as a means of providing another airway modality to bridge the gap between facemasks and endotracheal intubation. However, as with any intervention, LMA placement is not without risk to the patient and without risk of failure. Here, we present a case in which standard technique for placement of LMA failed and a laryngoscope was used to assist and properly insert the LMA.

A patient, 44 year old male, presented for incision and drainage of an abscess of the right foot. Pre-operative examination revealed a past medical history of atrial fibrillation, hepatitis C, and intravenous heroin use disorder, most recently used 4 days prior to surgery. Patient had a BMI of 23.6 kg/m2. An airway assessment revealed Malampatti score of 1, thyromental distance of greater than 3 finger breadths, and full range of motion of the neck. Patient was a non-smoker. Patient was classified as ASA 3. LMA placement was attempted using standard technique. No challenges were anticipated due to the preoperative normal assessment. However, despite two attempts there was difficulty properly positioning the LMA in the hypopharynx. A laryngoscope was then used to sweep and lift the tongue An LMA was then inserted and a proper placement was easily achieved with proper ventilation. Patient was stable throughout the duration of the case and there was no difficulty in removing the LMA.

LMA failure rates are low based on multiple large clinical trials. In an analysis of approximately 12,000 patients undergoing LMA placement, the success rate was 99.81% 1. Another retrospective observational study of over 15,000 patients cited LMA failure rates as between 0.19% to 4.7%2. The authors identified several risk factors associated with LMA failure rate increases including increased body mass index, male sex, reduced thyromental distance, thick neck, poor dentition, and smoking. In this case, the patient’s only qualifying characteristic as per this study was the male sex. Choo et al showed that laryngoscopy LMA placement was more successful on first attempt placement over the standard technique in dental patients (96.3% vs 81.5%, respectively, p<0.05)3. Our case report demonstrates success with the laryngoscopy-assisted technique after a failed attempt by experienced practitioner with the standard technique.

While LMA placement is relatively rare, there exists a potential for improvement in the placement of LMAs in the hypopharynx. As evidenced by the case presented, difficult airways are often not anticipated, despite large studies that identify risk factors. Because LMAs are often used especially in difficult airways, it is of great benefit to improve placement success in critical situations. Laryngoscopy assistance in case of LMA placement failure can introduce a novel method of achieving proper insertion and ventilation. Training regarding LMA placement does not currently
incorporate utilization of the proposed technique. We propose that laryngoscope assisted LMA placement technique become an integral part of training for LMA placement.