Flexible Optical Intubation Via the Ambu Aura-I Versus Blind Intubation Via the Single Use Intubating LMA - A Prospective Randomized Clinical Trial

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Introduction Supraglottic airway (SGA) devices are an integral part of the difficult airway algorithm.[1] If initial intubation attempts are unsuccessful, a SGA can be used either as a ventilator device or as a conduit for intubation. Only a few SGAs were specifically designed to be used as intubation conduits, such as the Intubating Laryngeal Mask Airway (ILMA™) (The Laryngeal Mask Company, North America). The Ambu®Aura-I™ (AMBU A/S Denmark) was developed to be used not only as an everyday SGA but also act as a conduit for endotracheal intubation assisted by a fiberoptic scope (the Ambu® aScope™). This study was designed to compare the Ambu® Aura-I to the ILMA regarding ease of insertion, ease and success rate of intubation, time to intubation, and airway morbidity in patients undergoing general anesthesia.

Methods After IRB approval, informed consent was obtained from 66 adult patients scheduled for elective surgery requiring general anesthesia. Patients were randomized into 2 groups. Patients in group A (n=33) were randomized to the Ambu® Aura-I & Ambu aScope and those in group B (n=33) were randomized to the ILMA. Data was recorded and analyzed regarding ease of insertion, time to intubation, ease and success rate of intubation, airway morbidity, and patient comfort. Any complications with use of either device were recorded.

Results Sixty patients were included for data analysis. Five patients were excluded from the study (3 from Ambu; 2 from ILMA) following unsuccessful intubation attempts. These patients were considered to be a difficult airway after alternative techniques of intubation were used to secure the airway. Another patient was excluded from the Ambu group due to a faulty monitor. Patient demographics, ease of insertion, rate of successful intubation on the first attempt, airway morbidity, and patient comfort were similar between the Ambu and ILMA groups. Time for placement of the SGA device in the Ambu® Aura-I group was slightly less statistically insignificant than in the ILMA group (Table 1); however

there was a statistically significant difference in the time to intubation between the two groups, which was shorter in the ILMA group.

Discussion As the focus on improving airway management techniques intensifies, a number of new intubating devices have entered clinical practice. This is the first study comparing the Ambu®Aura-I™ and Ambu® aScope™ to the ILMA™. Our data suggests that intubation with the ILMA™ is slightly faster, but the rate of successful intubation on the first attempt were comparable between the two groups. This data indicates that the Ambu®Aura-I™ with the Ambu® aScope™ may be a viable alternative to the more traditional ILMA for securing the airway.

References:

1. Special Article. Practice guidelines for management of the difficult airway: an updated report by the American Society of Anesthesiologists Task Force on Management of the Difficult Airway. Anesthesiology 2013 Feb;118(2):251-70