P1-28 Respiratory03 Supraglottic Airway No.1
Date: May 19th, 2011 (Thu) 10:30-11:30
Chairman: Takashi Kobayashi, M.D. (Osaki Citizen Hospital, Dept. of Anesthesiology)

No. : P1-28-1

air-Q is very useful for airway management including difficult airway

Tomoko Onodera[1], Yukiko Inoue[1], Takako Nagata[1], Yoshifumi Ohashi[1], Kiyokazu Kagawa[1],Hironobu Tanigami[1]

Osaka Medical Center for Cancer and Cardiovascular Diseases, Dept. of Anesthesiology[1]

Introduction: Utility of air-Q, a laryngeal mask type airway management device was evaluated.
Subjects and Methods: 1) air-Qs were used in 20 patients as an airway management device. Ease of insertion, insertion success rate and complication were evaluated. 2) air-Qs were used in another 20 patients including difficult airway cases and the utility as an intubation assisting device was evaluated.
Results: 1) air-Qs were easily inserted and ventilation through air-Qs was successfully established in all patients. Sizes of air-Qs needed to be changed in some patients. 2) As an intubation assisting device, blind intubation success rate at the first trial was about 90%. When using a fiber optic bronchoscope (FOB), intubation was easily achieved at the first trial in all the patients including difficult airway cases. The hemodynamic changes during intubation when using the air-Qs were smaller than that when using the laryngoscope.
Discussion: air-Q is a laryngeal mask type airway management device allowing intubation through the device. Disposable type is made of PVC and is sold at an inexpensive price. The results of this study demonstrated that the air-Q was practical enough as an airway management device. However, there were some cases such as obese patients that sizes of air-Qs needed to be changed since air-Q size selection was prescribed by body weight. Compared to conventional laryngeal mask type airways, air-Q has larger and softer shaft and the airway connector is detachable, so that standard sized tracheal tubes can be easily inserted though the device. Taking advantage of this property, it allows safe and easy tracheal intubation with maintenance of open airway including difficult airway management. air-Q may also be useful for intubation in critically ill patients since the hemodynamic change during intubation is low. air-Q is made of PVC and feels slightly “stiff”, and thus the effect on pharyngeal mucosa during long-term use is going to be the subject of further investigation.
Conclusion: 1) air-Q is useful as an airway management device. 2) It is also useful as an intubation assisting device including difficult airway management cases. 3) Availability of long-term use of the air-Q needs to be further investigated.

P1-28 Respiratory03 Supraglottic Airway No.1
Date: May 19th, 2011 (Thu) 10:30-11:30
Chairman: Takashi Kobayashi, M.D. (Osaki Citizen Hospital, Dept. of Anesthesiology)

No. : P1-28-3

air-Q is overwhelmingly superior to laryngeal mask airway in guiding the tube exchanger into the trachea

Kenshu Ohta[1], Tetsuya Akamatsu[1]

National Hospital Organization Osaka Minami Medical Center, Dept. of Anesthesiology[1]

Introduction: air-Q is a new intubation assisting laryngeal mask. With use of the air-Q, high intubation success rate has been reported. In this study, it was examined whether tube exchangers (TE) can be inserted into the trachea through air-Qs or not. Similar trail was performed using LMA Classic, and the results were compared.

Subjects: Patients who were ASA class I or II and underwent general anesthesia were allocated to air-Q group or LMA group. Each group had 15 patients.

Methods: air-Qs or LMA Classics were inserted in patients during induction of anesthesia, and then TEs were inserted through the airway devices. After TEs were inserted, air-Qs or LMA Classics were removed. Under the laryngoscopy, positions of TEs were visually observed. If TEs were in the trachea, intubations were performed using TEs as guide. If TEs were in the esophagus, TEs were removed and intubations were performed using the laryngoscope as usual.

Examination items: 1) insertion success rate of air-Q or LMA Classic, 2) ventilatory status with use of air-Q or LMA Classic, 3) TE insertion success rate into the trachea, 4) Cormack & Lehane (C&L) grade when the laryngoscopy was performed, and 5) presence or absence of complications.

Results: Both air-Q and LMA Classic were easily inserted in all patients. A slight air leak was observed during ventilation in one patient from air-Q group and LMA Classis group, but no oxygen desaturation was confirmed in both patients. TEs were successfully inserted into the trachea though air-Q in 11 out of 15 patients (success rate 73%). Subsequently, intubations were performed using TEs as guide. While in LMA group, the trials of TE insertion were discontinued after the 10th patients since TE insertion through LMA Classic failed in all the 10 patients (success rate 0%). Cormack & Lehane grades of many patients were I or II, but there were grade III of two patients in air-Q group and one patient in LMA group. No controversial complication was confirmed.

Conclusion: air-Q is superior in guiding the tube exchanger into the trachea and has high functionality as an intubation assisting laryngeal mask.

P1-28 Respiratory03 Supraglottic Airway No.1
Date: May 19th, 2011 (Thu) 10:30-11:30
Chairman: Takashi Kobayashi, M.D. (Osaki Citizen Hospital, Dept. of Anesthesiology)

No. : P1-28-4

Comparison of two tracheal intubation techniques using air-Q and Fastrach

Rieko Yamada[1], Koichi Maruyama[1], Tomoko Higashi[1],Tomio Ando[1]

Teikyo University School of Medicine University Hospital, Mizonokuchi, Dept. of Anesthesiology[1]

Purpose: Supraglottic Airway Device (SAD) has been widely used during general anesthesia. However, there are some cases required to transfer to tracheal intubation due to extended surgery time or dislodgement of airway devices. Conventional LMA Fastrach is the most popular airway device among SADs that allow intubation through devices. In this study, ease of tracheal intubation through devices was compared between air-Q, a new intubation assisting laryngeal mask and LMA Fastrach.

Subjects and Methods: Twenty patients who were expected to undergo tracheal intubation under general anesthesia were allocated to air-Q group and LMA group, and the results were compared. Anesthesia was induced using Propofol 2mg/kg, Fentanyl 100g and Rocronium 0.6mg/kg, and ventilation was given for 3 minutes with use of 3% Sevoflurane. Subsequently, air-Q or LMA Fastrach was inserted. After confirming establishment of ventilation, number of SAD insertions and laryngeal findings using fiber optic bronchoscope (whether the vocal cords are viewed at the front) were evaluated, and then intubation through either air-Q or LMA Fastrach was performed. Number of intubations, blood pressure and pulse changes before and after intubation were recorded. Statistical analysis was carried by contingency table analysis.

Results: There was no difference in background between two groups. There was no difference in the number of SAD insertion before establishment of ventilation between two groups, but the number of cases that the vocal cords could be observed in the front view was higher in air-Q group than in LMA Fastrach group (9 out of 10 with air-Q; 2 out of 10 with LMA Fastrach). Intubation success rate through the devices was higher in air-Q group than in LMA Fastrach group (8 out of 10 with air-Q; 3 out of 10 with LMA Fastrach).

Conclusion: Tracheal intubation was able to be performed easier with air-Q than LMA Fastrach.

P1-28 Respiratory03 Supraglottic Airway No.1
Date: May 19th, 2011 (Thu) 10:30-11:30
Chairman: Takashi Kobayashi, M.D. (Osaki Citizen Hospital, Dept. of Anesthesiology)

No. : P1-28-6

Blind intubation success rate of air-Q - Comparison between Parker Flex-Tip Tube and Portex Tracheal Tube

Masaaki Sato[1], Tomoyuki Sato[1], Go Takeda[1], Junya Oshida[1], Akira Hashiuchi[1]

Saitama City Hospital[1]

Introduction: air-Q is a new laryngeal mask with intubation assisting capability, and usability of air-Q for difficult intubation cases has been reported. Parker Flex-Tip Tube is a tracheal tube developed by Dr. Parker, and it has been reported that it is useful during intubation procedure with use of a fiber optic bronchoscope (FOB). The purpose of this study is to compare intubation success rate between Parker Flex-Tip and Portex tracheal tube through air-Q.

Hypothesis: There should be no difference in blind intubation success rate through air-Q between Parker Flex-Tip and Portex tracheal tube.

Subjects and Methods: Forty patients with ASA class I or II and body weight from 50 to 70kg expecting to undergo tracheal intubation were recruited. The patients were allocated randomly to the Portex group (PO group) or the Parker group (PA group). Sizes of tracheal tubes used were 7.5mm I.D. for males and 7.0mm I.D. for females. After induction of anesthesia, air-Qs with size of 3.5 were inserted in patients, and glottic opening views after air-Q placement were classified into three groups under the fiber optic bronchoscopy. After the observation, FOBs were removed and blind intubation through air-Q was performed.

Results: Blind intubation success rate at the first trial and that up to the second trial were higher in the PA group than the PO group ($P < 0.05$). Blind intubation success rate at the first trial was 17/20 in the PA group (17 out of 20) and 10/20 in the PO group (10 out of 20), and that up to the second trial was 19/20 in the PA group (19 out of 20) and 13/20 in the PO group (13 out of 20). There was no significant difference in glottic opening views and incidence of post sore throat between the PA group and the PO group.

Conclusion: Blind intubation success rate through air-Q was higher when using Parker tracheal tubes than Portex tracheal tubes.