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LETTER TO THE EDITOR

Utility of the ProSeal laryngeal mask airway creating a 90° angle with an intubating stylet

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To the Editor:

The ProSeal laryngeal mask airway (PLMA; LMA North America, San Diego, CA, USA) is equipped with a double cuff mechanism and can maintain a high seal pressure. Hence, positive-pressure ventilation can be safely performed through it. In addition, suction of gastric contents through the drain tube helps prevent aspiration. However, because of the large cuff size of the PLMA, the success rate of insertion at the first attempt is low and insertion time is prolonged [1]. These potential problems can be overcome by using an intubating stylet with the laryngeal mask airway (LMA). Yodfat [2] was the first to describe use of the intubating stylet with a Classic LMA (Classic) (Yodfat technique). Jaffe and Brock-Utne [3] then reported the modified Yodfat technique using a Classic LMA. Subsequently, in 2007, Lee [4] introduced a new technique using the PLMA. Lee's modification is equipped with an intubating stylet, which is inserted in the airway tube of the Classic LMA, and in the drain tube of the PLMA. Here, we introduce a technique that is a further improvement on Lee's technique with the PLMA.

In the technique which Lee introduced, an intubating stylet was used to bend approximately 2 cm of the cuff tips of the PLMA anteriorly by 45°. However, when we tried this, the anteriorly bent PLMA was often difficult to insert in patients with narrow pharyngeal spaces. Therefore, we remodeled a PLMA with an intubating stylet (Sher-i-slip: 10Fr, Teleflex Medical, Research Triangne Park, NC, USA) with the same angulation as the Fastrach laryngeal mask airway (Fastrach LMA, North America, San Diego, CA, USA) advocated by the Yodfat technique (Fig. 1). We inserted our modified PLMA using the same insertion technique as the Fastrach LMA. We can now easily insert the PLMA with the curvature form fitted to this anatomy. Vaida and Yodfat [5] reported that the high success rate of insertion of the AMBU laryngeal mask airway is dependent on angulation by 90° of the part of the tube that is close to the junction of the tube and laryngeal mask. Besides the benefits of existence of a drain tube and high seal pressure with the styleted PLMA as compared with the Yodfat technique, an additional advantage of our technique is being able to insert the stylet up to just before the cuff tip. In the Yodfat technique using the Classic LMA, upward turning of the cuff tip may have occurred after inserting the styleted LMA, because the stylet was advanced only up to the orifice of the airway tube. Conversely, with our technique, proper positioning of the cuff tip of the PLMA can be better achieved.

There is a commercially available PLMA introducer (LMA) that can also produce the same angulation of the Firstrach LMA. The introducer for PLMA insertion is molded to form a fixed shape. Because it is hard in shape, it might injure the laryngeal pharynx if inserted forcibly. Moreover, the tip of the introducer does not reach the cuff tip of the PLMA, which causes bending of the tip. When performing PLMA insertion using the intubating stylet, the success rate is speculated be higher than for PLMA insertion with the introducer, because the stylet can be transformed to fit the shape of the laryngeal pharynx of each patient and reaches the cuff tip.

In general, we performed insertion of the PLMA using a standard method in which we provided guidance with a finger tip on the first try, regardless of predictable difficulties of insertion. For cases in which the second tries

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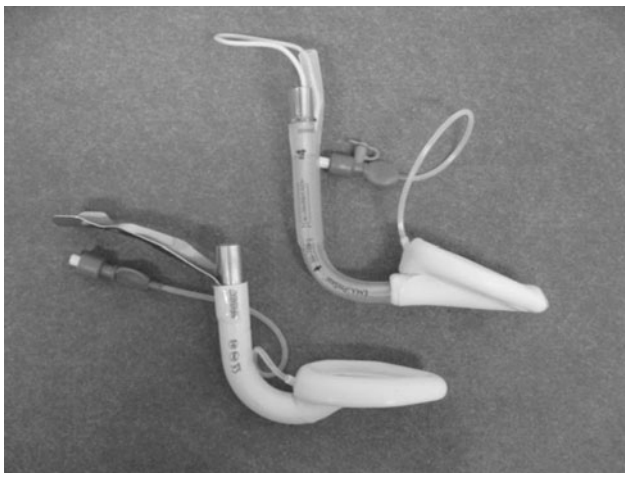

Fig. 1 Fastrach LMA and styleted PLMA. Styleted ProSeal (*right side*) laryngeal mask airway (PLMA: Sher-i-slip intubating stylet) is remodeled with angulation similar to that of the Fastrach (*left side*) LMA

failed, we used an intubating stylet, as described in this report.

The success rate with this method was 100% in 22 cases (age range, 2–85 years). In 16 cases, we were successful in a single try, and we had success within 3 tries in the remaining 6 cases.

We have had success with this technique in both adult and child airways.

Conventionally, in cases with difficult insertion of the PLMA, a PLMA of smaller size than that is actually indicated is inserted. However, this can result in inadequate sealing of the airway. Thus, our technique makes it possible to increase the success rate of insertion, without lowering the sealing pressure of the respiratory tract.

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