Reviewer's report

Title: The effect of changing the sequence of cuff inflation and device fixation with the LMA-Supreme(R) on device position, ventilatory complications, and airway morbidity: a clinical and fibrescopic study

Review date: 16 November 2013

Reviewer: Konrad Schwarzkopf

Review's report:

The aim of the study is to investigate whether the correct position of a laryngeal mask is affected by whether the mask is fastened to the patient before or after inflating the cuff. The study was performed on 184 patients, no significant difference in inadequate ventilation or inadequate position could be observed.

The authors evaluated the correct position of the laryngeal mask by bronchoscopy, the quality of ventilation was evaluated clinically. In addition a survey of patients regarding postanesthetic comfort was done at two time points. The used study protocol thus appears reasonable.

Since one can expect a rather small difference between the two compared techniques, the sample size may be too small to detect a difference between the two compared techniques.

A fundamental problem of the study is that the study is focussed on the correct tip position. We know that laryngeal masks very often are not positioned in the theoretically ideal position and still provide very good ventilation conditions. The described high failure rate of the LMA-S with around 10% (Table 3) is very high in this context.

In this study the manufacturer's recommendation for positioning of the LMA was followed, but in clinical reality a lot of other techniques regarding the positioning of the LMA are described.

Minor Essential Revisions:

1 Introduction: The relevance of the complications mentioned in the studies 1-5 should be explained e.g. Major problems (ventilation impossible) at x%, other problems in X%.

2 In the methods section the respirator settings should be described more detailed: E.g. use of PEEP, Pmax during surgery, respiratory rate and so on.

Major revisions compulsory:

1 Limitations of the study: The authors should mention that the results of this study are limited to the use of this special LMA used in the described way. They should mention that in daily practice often other techniques for positioning are used.
2 The text should include a passage describing other established techniques for insertion and fixation of laryngeal masks in general to demonstrate that in reality a lot of the first recommendations regarding the introduction of these masks are outperformed today. So should the authors mention that in some departments LMA are used without any fixation at all.

3 The authors should clarify that the success of ventilation is probably the most important criterion in studies comparing techniques for insertion of LMAs.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
'I declare that I have no competing interests'