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First experience with the SaCo Video Laryngeal Mask airway —case series

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Introduction or Objective: Starting from 1981, supraglottic devices (SAD) have undergone a thorough development. We have already seen a transition from the first generation of SADs (with a single channel) to the second generation (with a separate breathing and gastric channel). The focus shifts now to the third generation of SADs that incorporates also the “direct vision placement capability”. SaCoVLMTM (Zhejiang UE Medical Corp, PRC) enables this via a separate dead-end video channel which is used to introduce a dedicated video camera to control not only the placement of the SAD but also to facilitate eventual intubation via the SaCoVLMTM. It is delivered in the standard sizes 3, 4, and 5.

The Detailed Case: We have obtained the SaCoVLMTM from the producer to gain initial experience with the device with a perspective of conducting a larger study later. As it is not recognized as a certified medical device at present time, we had to obtain ethical approval from the ethical commission of our institution (26/22-S-IV-Grant , GUH Prague, 17/02/2022).

Results: During the first month (22/5 to 22/6) we used SaCoVLMTM in sizes 4 and 5 in 20 patients (12 females, 8 males, mean age 66 +/- 5.2 years, ASA I-III). The first 10 SADs were used to gain initial experience with airway management using this device. (Usage of SaCoVLMTM in breast surgery is shown in Fig.1) The success rate was 100% experiencing seal pressure of 34 cmH₂O (+/- 4.6). In 9 of 10 patients, we were able to visualize the whole of the glottis. In 2 of 10 patients, we have observed partial obstruction of view due to the saliva/sputum —2/10. The next 5 SADs were used as a conduit for tracheal intubation in abdominal surgery, as shown in Fig.2. We were able to visualize the whole glottis in all these patients with a 1st attempt success rate of tracheal intubation in all of them. There were no reported complications in this group. The last 5 SADs were used as airway management for interventional bronchology procedures. Again, we were able to visualize the whole glottis and insert a flexible bronchoscope in every patient in this group. In two of the patients, we also inserted the flexible bronchoscope into the esophagus with complete success, as shown in Fig.3. In 2 of 5 patients, excessive salivation was present. Complications: excessive salivation 2/5.

Fig.1.-Usage of SaCoVLM(TM) in breast surgery

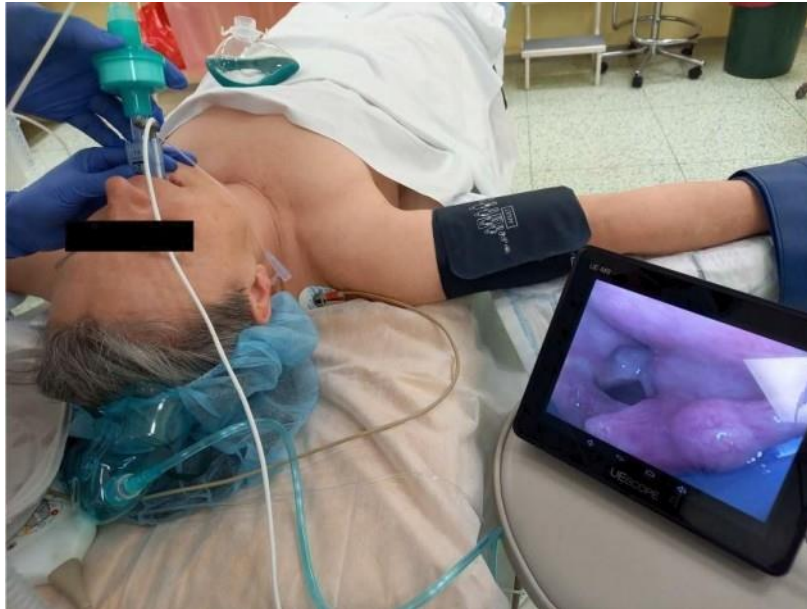


Fig.2.- Usage of SaCoVLM(TM) as a conduit for tracheal intubation

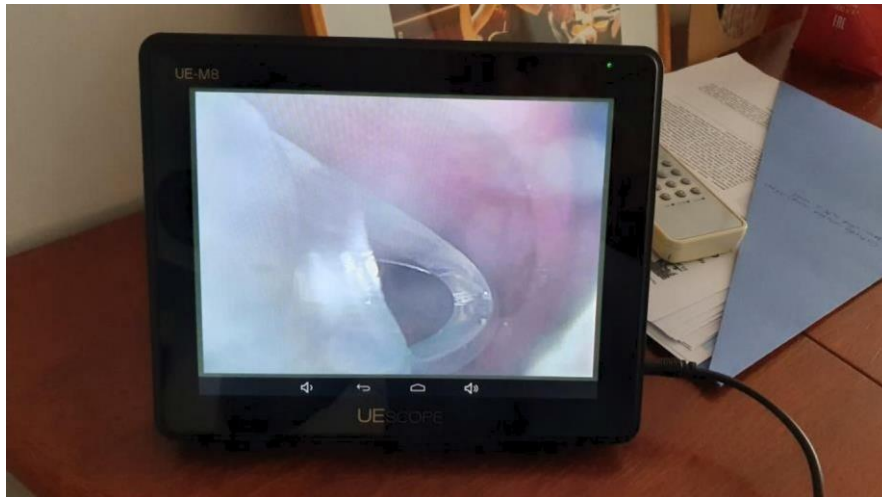


Fig.3.- Insertion of the flexible bronchoscope into the oesophagus via SaCoVLM(TM)



Discussion&Conclusion: The first and second generations of SADs have substantially influenced airway management, although some issues persist. Some of them might be resolved by the third generation[1]. Preliminary results show the benefits of SaCoVLMTM in general anesthesia [2] and also in morbidly obese patients[3]. Our experience shows that SaCoVLMTM is a promising novel versatile supraglottic airway device allowing direct real-time evaluation of the vocal cords position during airway management in anesthesia, allowing tracheal intubation under direct vision without interruption of oxygenation. However, SaCoVLMTM may have limited use in patients with excessive salivation, mucous secretions, and possibly also intraoral bleed.

Keywords: supraglottic device, direct vision, video channel

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