Novel Suction holder clips for endolaryngeal laser surgery
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Introduction

Since the introduction of Lasers in Laryngeal surgery, a number of technological advances, as well as improved understanding of disease pathogenises and management, have enabled major evolution in surgical techniques. Evacuation of the smoke in a continuous manner during endolaryngeal surgery improves visualization of the surgical field. Microlaryngoscopes have been adapted for laser use by the addition of smoke evacuation channels on the side of the laryngoscope. We have devised new simple and efficient suction clip holder for endolaryngeal surgery.

Lasers benefit is predicated on appropriate use that requires modified instrumentation and adherence to general safety precautions. Microlaryngoscopes have been adapted for laser use by the addition of smoke evacuation channels on the side of the laryngoscope. Although the addition of these channels enlarges the outer diameter of the laryngoscope, their presence greatly facilitates laser use. Evacuation of the smoke in a continuous manner improves visualization of the surgical field. Reliance on handheld suction devices provides only intermittent laser plume evacuation, slows the procedure because the surgeon has to continually reinset the suction device, and ties up one hand of the operating surgeon.

Continuous plume evacuation also improves accuracy of aiming because particles within the smoke can deflect or absorb the laser beam. Finally, continuous plume evacuation may lessen the likelihood of the spread of viral particles contained within the laser plume down the respiratory tract of the patient or to operating room personnel.

Suction attached forceps and or laryngoscope, or suction holders or separate handheld sucker is generally used to clear the vaporized material. Suction attached forceps could be bulky.

Suction clip holder

In laser surgery ideal fumes sucker should have the following features
1. Able to adequately suction the fumes the fumes,
2. Readily attachable/detachable from laryngoscope for suction in the occurrence of bleeding
3. Does not obscure the view of the operating field
4. Readily available and inexpensive.

Taking into account all of the above, the senior author has devised suction clip holders which has got following distinct advantages over other type of suction holders. These clips can hold various sucker sizes as they feature an expandable slit (figure. 1, 2, 3).

Clip design

Further details are explained with technical diagram (figure 3). Length of the clip is 4.5 cm, suction holding slot inner and outer diameter 3 and 5 millimetres respectively. slot is for holding the sucker with grip. With this clip, the placement of the sucker in the proximal end of the laryngoscope and the position of the sucker tip at the distal end are both easily adjustable for optimal suction. It also clips easily into any laryngoscope without obscuring visual field (Figure. 1d). Furthermore, in the instance of any bleeding, this sucker is easily detachable and can be used for suction. We routinely use these sucker clips to perform all endolaryngeal surgery and overall, feel they are simple, easy to use and extremely efficient in suctioning fumes.

References