Abstract

We present a simple apparatus using common materials to modulate the degree of suction applied to tissue at the tip of the microdebrider. This system allows the surgeon to instantaneously modify the suction in graded amounts within the range from fully open to completely occluded. This technique dramatically increases the sensitivity of the microdebrider to delicately remove abnormal tissue without damaging adjacent normal tissue. It also offers the surgeon dynamic control in moving from one operative site requiring high suction to another site requiring low suction.

Methods and Materials

A 3/8th inch rubber tubing is connected to the suction port of the microdebrider and looped into a figure of eight over the handpiece. This assembly is secured with tape to permit the surgeon to compress the tubing with his thumb or finger. Digital pressure applied by the surgeon to the tubing compresses it against the underlying handle of the microdebrider. The tubing has optimal properties that permit easy deformability to permit refined adjustment in the amount of suction passing through it with compression.

Discussion

Mortensen and Woo reported their management of a complication ascribed to improper use of powered instrumentation in management of a vocal fold polyp with web and granuloma formation. The authors concluded that “powered instrumentation should be used with care in the larynx.” The adaptation we have developed to permit modulation of suction increases the sensitivity of the microdebrider so that it can be used in a much more delicate fashion. Problems in maneuvering long-handled instruments through a narrow bore laryngoscope for delicate vocal cord surgery have been acknowledged. The additional coordination required of the surgeon to digitally modulate the suction in the course of positioning the microdebrider in the larynx can increase the complexity of these delicate maneuvers. As a result, we have begun to develop a foot-pedal control (patent pending) that will further refine the control of endoscopic laryngeal resections.

References