CO2 laser

Development of the flexible CO2 fiber has presented new opportunities for the use of precision laser cutting in cranial procedures. The efficacy of the CO2 scalpel is further enhanced by combining it with a fluid removal suction capability. Objectives We report our experience with a novel CO2 laser-suction device.

A novel laser-suction device was designed in conjunction with OmniGuide Inc. (Cambridge, Massachusetts, USA). A case review of its use in firm tumors that were resistant to resection by bipolar, suction, and ultrasonic aspirator.

The laser-suction device was applied in three tumors where resection with ultrasonic aspiration failed. Tumor resection using the laser-suction device was successful in all three cases. There were no complications related to the laser-suction device. There were no instances of intraoperative device malfunction.

The CO2 laser combined with suction is a useful instrument for resection of firm tumors that prove to be resistant to ultrasonic aspiration. We also find it to be useful in settings where precise tissue incisions are desired with minimal manipulation. In our experience, the surgical efficiency of the CO2 laser is improved by the laser-suction device. This device allows the surgeon to utilize a suction device and laser in a single hand and enables concurrent use of bipolar electrocautery without repeated instrument changes ¹⁾.

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Straus D, Moftakhar R, Fink Y, Patel D, Byrne RW. Application of Novel CO2 Laser-Suction Device. J Neurol Surg B Skull Base. 2013 Dec;74(6):358-63. doi: 10.1055/s-0033-1347373. Epub 2013 May 29. PubMed PMID: 24436938.

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