Control of upper gastrointestinal hemorrhage by the use of a neodymium: YAG laser endoscopic system

Richard M. Dwyer, M. D.

(Harbor General/UCLA Medical Center)
Torrance, California

Neodymium: YAG laser phototherapy has been previously reported to be effective in the endoscopic control of upper gastrointestinal bleeding. This report described our effectiveness in the use of this modality for the treatment of patients with acute upper gastrointestinal hemorrhage. The parameters and specific methods employed to ensure adequate control are unique and separate from non-therapeutic endoscopic procedures. Flexible fiberoptics using both a four degree and an eight degree divergence angle were incorporated into a dedicated upper double channel endoscope. Informed consent was obtained from each patient. Vigorous saline gastric lavage was performed on all actively bleeding patients using a 58 french gum rubber tube. The energy exposure times ranged from 2 seconds to 12 seconds and the power level was 60 watts. A total of 106 bleeding episodes were treated by Nd: YAG laser phototherapy for upper gastrointestinal hemorrhage. The lesions treated included all types. Ninety percent of the patients received effective treatment for their bleeding lesion. In two patients, hemorrhage from esophageal varices was unable to be controlled. One patient was too unstable to continue the procedure and in the other patient the power output of the system was discovered after the procedure to be below 50 watts. One perforation occurred two days after treatment. No surgery was performed due to the critical condition of the patient from other problems. At six weeks the patient died of respiratory failure. In conclusion, the Nd: YAG is safe and effective in the control of upper gastrointestinal hemorrhage. Undue prolongation of hemorrhage can be prevented by combining diagnostic endoscopy with Nd: YAG laser phototherapy.

应用 Nd: YAG 激光内窥镜系统控制上胃肠道出血

Richard M. Dwyer, M. D.

(UCLA 医学中心临床助理教授)

关于在内窥镜中应用Nd:YAG激光光疗可以有效地控制上消化道出血，已经有所报道。本报告介绍采用这种方法治疗急性上消化道出血的疗效。该方法所采用的观察指标和其特殊方法能充分保证控制出血，它是独特的，并与非治疗性内窥镜程序有所不同。将发散角4度和8度的可弯曲的光导纤维与上双通道内窥镜连接。取得每位病人同意。对急性出血患者采用58号法国橡皮管进行彻底的盐水洗胃。照光时间为2～12秒，功率为60瓦。总共对106例上胃肠道出血患者作Nd:YAG激光光疗，对各种类型的病灶进行了治疗。有90%的出血性患者得到有效治疗。两例食道静脉曲张患者未能止血，一例患者因过于烦燥而不能连续治疗，一例在治疗后发现输出功率低于50瓦。一例在2天后发生穿孔，由于病人的其它紧急情况而作了非外科处理。此患者六周后死于呼吸衰竭。总之，Nd:YAG激光对治疗上消化道出血是安全、有效的，使用诊断内窥镜结合Nd:YAG激光光疗能防止过度的长期出血。