Videolaseroscopy,
New Modality for the Treatment of Endometriosis

Camran Nezhat, C.H. Nezhat

Fertility and Endocrinology Center and Northside Hospital, Atlanta, Ga., USA

Recent advances in endoscopic surgery have enabled the gynecologic surgeon to treat an increased number of diseases of the reproductive organs with use of the laser. To avoid significant back strain and fatigue associated with directly operating through the laparoscope, we have introduced a new modality called videolaseroscopy. This method involves the development and refinement of a new laser videomonitoring technique incorporating the use of a videocamera, videorecorder and high-resolution videomonitor in conjunction with the laser laparoscope. This permits the surgeon to operate in a more comfortable upright position directly from the videomonitor and thus reduces the fatigue associated with direct visual contact through the laparoscope during long complicated procedures. In the present study a total of 631 patients will be presented who underwent videolaseroscopy for the treatment of endometriosis (stages I-IV American Fertility Society). Details about these 631 patients will be discussed at the presentation. No major complications were reported in any patients undergoing the procedure and minor complications included those normally associated with laparoscopic procedures such as incisional pain or shoulder pain secondary to trapped carbon dioxide gas. All patients were discharged within 24 h. By decreasing fatigue of the operator while at the same time providing the patient with a safe, cosmetically esthetic, efficacious therapeutic modality, videolaseroscopy has established itself as a new advancement in endoscopic treatment of diseases of the reproductive organs. In addition, videolaseroscopy is associated with a much shorter hospitalization and convalescent period than is open laparotomy and also provides the opportunity for operating room personnel to actively participate and therefore better assist by viewing the procedure through the monitor. Additional benefits are the zooming effect of camera, possibility of operating at all angles by rotating camera and resistance of camera's eye (lens) to the smoke. In our opinion, videolaseroscopy is the best available treatment for endometriosis.

Evaluation of Possible Safety Hazards from Smoke
Produced during Laser Laparoscopic Treatment of
Endometriosis with Suggestions for Control

C. Nezhat, C. Allen, H. Damrau, W.G. Reeves, L. Fellows, D. Forrest,
C.H. Nezhat

Fertility and Endocrinology Center and Northside Hospital, Atlanta, Ga.,
Kimberly-Clark Corporation, Roswell, Ga., USA

Increasingly the carbon dioxide laser is being used in the surgical treatment of endometriosis. Growing concerns among laser surgeons are the possible hazards associated with the malodorous smoke or plume that is created during the laser vaporization of

Free Communications 386

tissue. Adapting a technique widely used for the analysis of hazardous aerosols, we have collected the smoke from carbon dioxide videolaser surgery of 30 patients presenting with varying stages of endometriosis. The smoke consists of particles of protoplasm having a geometric mean diameter ranging from 0.2 to 1.0 μm . The geometric standard deviation is remarkably constant at 1.8 μm . Whole cells including cancer cells, the most frequently mentioned laser plume hazard in the literature, are not present in the smoke. However, hardy viruses could possibly be transported in the particles, which because of their small size easily penetrate surgical face masks. Even if the particles are free of infectious agents, the particles are of such size that in sufficient quantity, they represent a respirable dust hazard. Smoke particles can be effectively controlled during laser laparoscopic procedures. To accomplish this task, we have developed a technique of irrigating the pelvis with heparinized lactated Ringer's solution following each laser ablation of the endometrial implants and removing the irrigant with standard wall suction.