

# Laparoscopic Vaporization of Diaphragmatic Endometriosis in a Woman with Epigastric Pain

## A Case Report

Rakesh Mangal, M.D., Omur Taskin, M.D., Camran Nezhat, M.D., and Robert Franklin, M.D.

**BACKGROUND:** Endometriosis has been observed in 8–15% of reproductive age women and is commonly found in pelvic and nonpelvic organs. Despite its widespread prevalence, the etiology remains obscure.

**CASE:** A 22-year-old woman with intractable epigastric and pelvic pain who was treated previously by laser ablation for pelvic and diaphragmatic endometriosis was referred to our clinic. The patient received leuprolide acetate for six months, but the symptoms did not improve. Second-look laparoscopy revealed deep endometriotic spots involving both the diaphragms, exactly in the line of the left ventricle. With visualization, endometriosis was excised in total with the help of hydrodissection and CO<sub>2</sub> vaporization.

**CONCLUSION:** As in pelvic endometriosis, therapy for extrapelvic endometriosis consists of surgical and hormonal manipulation following the diagnosis. The importance of extreme caution, meticulous surgery and cardiothoracic consultation when treating the diaphragmatic surface cannot be overemphasized. (J Reprod Med 1996;41:64–66)

**Keywords:** endometriosis; diaphragm; vaporization, laser.

### Introduction

Endometriosis has been observed in 8–15% of reproductive-age women, with peaks in the third and fourth decade.<sup>1</sup> Despite its widespread prevalence, the etiology remains obscure. No single theory proposed yet is sufficient to explain the nature of the disease. Endometriosis is commonly found in pelvic organs and may effect the intestines, urinary tract, right-sided thoracic organs, brain and, rarely, extremities.<sup>2–4</sup> We report a case of diaphragmatic endometriosis with epigastric pain and treated laparoscopically with high-frequency sound waves.

### Case Report

A 22-year-old woman, gravida 1, was referred to us with intractable epigastric and pelvic pain one year after laparoscopic laser ablation of endometriosis. The patient had had the above symptoms and was

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From the Woman's Hospital of Texas and Division of Reproductive Endocrinology, Baylor College of Medicine, Houston, Texas; the Department of Obstetrics and Gynecology, Stanford University, Palo Alto, California; and the Mercer University School of Medicine, Atlanta, Georgia.

Dr. Mangal is Fellow, Society of Reproductive Surgeons, Woman's Hospital of Texas.

Dr. Taskin is Fellow, Division of Reproductive Endocrinology, Baylor College of Medicine.

Dr. Nezhat is Clinical Professor, Department of Obstetrics and Gynecology, Stanford University.

Dr. Franklin is Director, Society of Reproductive Surgeons Fellowship, Woman's Hospital of Texas.

Address reprint requests to: Rakesh Mangal, M.D., 6550 Fannin, Suite 801, Houston, TX 77030.

diagnosed as having and treated for pelvic and diaphragmatic endometriosis. Endometriosis of the left hemidiaphragm had been located exactly in the same line as the left ventricle of the heart. At that time the patient had received leuprolide acetate (3.75 mg/mo) for six months, but the symptoms did not improve. Because of the intractable pelvic and epigastric pain, laparoscopy was recommended. The patient consulted a cardiovascular surgeon because of the disease's close proximity to her heart and possible phrenic nerve damage.

Under general inhalation induction anesthesia, via direct trocar entry, a laparoscope was introduced into the abdominal cavity. Pneumoperitoneum was obtained with CO<sub>2</sub>, and suprapubic and upper abdominal trocars were placed. After a thorough evaluation of the abdominal cavity, the upper abdomen was found to be within normal limits except for two classic powder burn endometriotic lesions (1.5 and 0.3 cm in diameter) over the left hemidiaphragm, exactly in the line of the left ventricle. Endometriosis in both these areas deeply involved the diaphragm.

The liver was pushed down with grasping forceps, and the lesions were visualized. All the endometriosis was excised in total with the help of hydrodissection and CO<sub>2</sub> laser vaporization without entrance into the mediastinal cavity. Hemostasis was obtained by bipolar electrocautery. Then attention was given to the pelvic lesions, which were vaporized completely with the laser. The abdominal cavity was irrigated thoroughly with lactated Ringer's solution. The instruments were removed and the incisions closed.

The patient tolerated the procedure well and was

### ***Cardiothoracic consultation is warranted for a safe procedure.***

discharged from the hospital the same day. She was free of symptoms at her last clinic visit, three months after the surgery.

#### **Discussion**

An extrapelvic thoracic location of endometriosis generally involves the pulmonary pleura and diaphragm or the pulmonary parenchyma, with recurrent pulmonary symptoms. Frequently observed is catamenial pneumothorax, a variant of

spontaneous pneumothorax.<sup>3,4</sup> The pathogenic mechanism remains unclear, but it appears that coelomic metaplasia and/or hematogenous and lymphatic dissemination plays a role in thoracic endometriosis.<sup>3</sup> Since the location of diaphragmatic endometriosis is predominantly on the right side and the pleura arises from coelomic epithelium,

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coelomic metaplasia probably is a better explanation for the existence of diaphragmatic endometriosis.<sup>2</sup> In this case the implants were on the left hemidiaphragm, in close proximity to the left ventricle.

In endometriosis, the symptoms are generally related to menstruation. However, in cases of extrapelvic endometriosis the presentation may be atypical, as in our case, in which the patient presented mainly with epigastric pain. These atypical presentations may delay the appropriate diagnosis. Computed tomography and magnetic resonance have been reported to be useful in both pelvic and extrapelvic endometriosis.<sup>5</sup>

As in pelvic endometriosis, therapy for extrapelvic endometriosis consists of surgical and hormonal manipulation following the diagnosis. To our knowledge, this is the second laparoscopically treated case. The previous case was reported on by Nezhat et al,<sup>6</sup> who used CO<sub>2</sub> laser vaporization and excision. Our case was also treated using the CO<sub>2</sub> laser.

The importance of extreme caution and meticulous surgery when treating the diaphragmatic surface cannot be overemphasized. In view of the surrounding anatomy, cardiothoracic consultation is warranted for a safe procedure. This procedure is the last resort due to its high risk and should be done only by experienced surgeons when other treatment modalities fail.

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