

Severe adhesions and advanced laparoscopic surgery

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Abstract

A 43 year old, status post hysterectomy, was referred for the management of ovarian retention syndrome. Extensive adhesiolysis was performed and ovaries removed. Bladder cystoscopy with hydrodistension test revealed symptoms of early interstitial cystitis. Estimated blood loss was 800 and operative time 5 hours 23 minutes. The case demonstrates the potential of minimal invasive surgery in a case of severe adhesions that looked initially impossible.

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Introduction

With the advent of laparoscopic surgery gynecologic surgeons were among the pioneers of laparoscopic intervention for different types of benign disorders. With more than two decades since the first "laparoscopic" hysterectomy performed in the eighties, still only 14% of hysterectomies are performed via laparoscopy.¹ In most cases, surgeons prefer to operate the traditional way due to lack of experience with the minimal invasive method or because of fixed belief that certain complicated cases are

an absolute contraindication to laparoscopic treatment or a reason for conversion to open route, namely severe adhesions or large uterus.² Intraoperative adhesions are encountered in as many as 21.10% of laparoscopic procedures.³ In this paper we report a case of a posthysterectomy patient with severe adhesions who was operated laparoscopically with successful outcome.

History & Reason for Current Referral

A 43 year old, gravida 4, para 3, 127 lb, 5 ft 1", status post hysterectomy, was referred to us for management of a cyst on both of her ovaries. On transvaginal ultrasound she was found to have bilateral cystic masses; the left was 5 cm and pressure on it reproduced the usual pain with intercourse; the right ovary was also tender and had a cyst around it. Both of these were elongated septated cysts that could be ovarian tumors but appeared closer to hydrosalpinx or peritoneal cysts. The patient had a normal complete blood count, comprehensive metabolic panel, and urinalysis. HIV was negative. CA-125 was 4.5 U/ml, normal.

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We discussed with the patient her current condition, treatment alternatives, risks and benefits, the nature of the proposed procedure, its intended purpose, potential complications, their management and her expected postoperative convalescence. Her informed consent was obtained both verbally and in written manner. She has had an opportunity to address questions related to her care. We explained the meaning of ovarian retention syndrome and the possibility that the right side might start to hurt as bad as the left

once the left is removed. The patient agreed to proceed with laparoscopic bilateral salpingo-oophorectomy, lysis of adhesions and cell washings for definitive treatment surgically of her chronic pelvic pain and known pelvic masses. She had an elevated Pelvic Pain, Urinary Urgency & Frequency (PUF) questionnaire score of 21. Cystoscopy with hydrodistension was planned to rule out interstitial cystitis as a component of her pelvic pain pathology. Bowel preparation was performed.

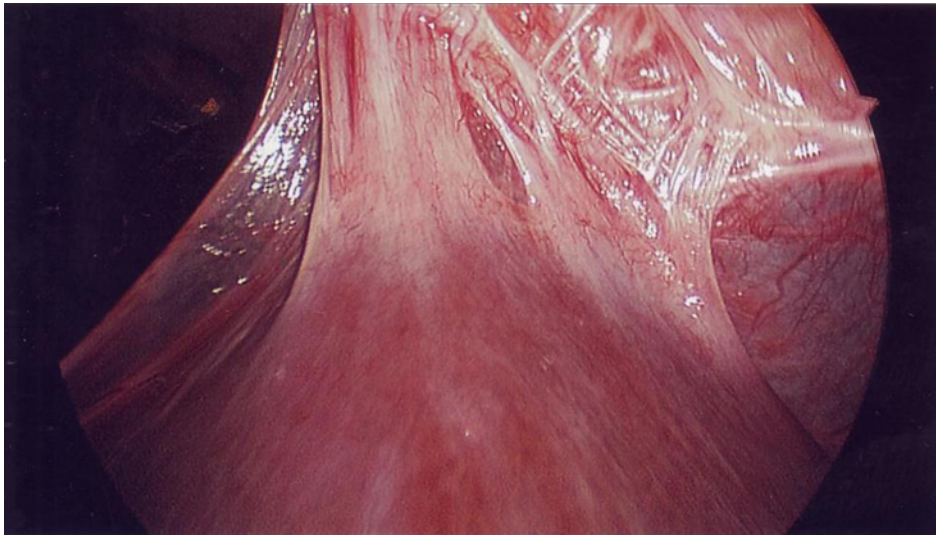


Figure 1: Severe adhesions of the liver edge to the anterior abdominal wall.

Operative Findings

The patient was found to have severe adhesions of bowel and omentum to the anterior abdominal wall throughout the abdomen except for the left upper quadrant where the initial entry was made. The spleen was visible upon entry. She had adhesion of the liver to the anterior abdominal wall, small and large bowel adhesions to the anterior abdominal wall. Extensive dissection was required to free them using sharp dissection with the occasional *Severe adhesions and laparoscopic surgery*

employment of Harmonic and occasional bipolar cautery for hemostasis. Resection was accomplished freeing the bowel from the anterior abdominal wall to view the pelvis without incident. All that required approximately 2 hours to do. The resection of the bowel from the pelvis also required approximately another 2 hours. She had dense adhesions of loops of small bowel and sigmoid colon to both pelvic sidewalls, the pelvic floor, densely to the right adnexa, and only

with filmy adhesions to the left adnexa. After finally freeing the bowel from the sidewalls, from the floor of the pelvis and from the right adnexa, extensive dissection of the pelvic sidewall which was very fibrotic was required, finally identifying the ureter with a remnant of the ovarian artery found draped over the remnant of the umbilical artery. This was used to track back and find the offshoot of the uterine artery and the ureter was identified at this point. Extensive dissection was done to free the right adnexa from the pelvic

sidewall, because of very dense adhesions and large tubo-ovarian complex. She also had an absolute bladder capacity of 950 cc under 70 cm of water pressure approximately, had glomerulations in all quadrants, too numerous to count on release of pressure consistent with early interstitial cystitis. Indigo carmine was seen to be coming from both ureteral orifices. Estimated blood loss was 800 cc. Operative time was 5 hours 23 minutes. Extensive photo documentation of the procedure was done (Figures 1-4).

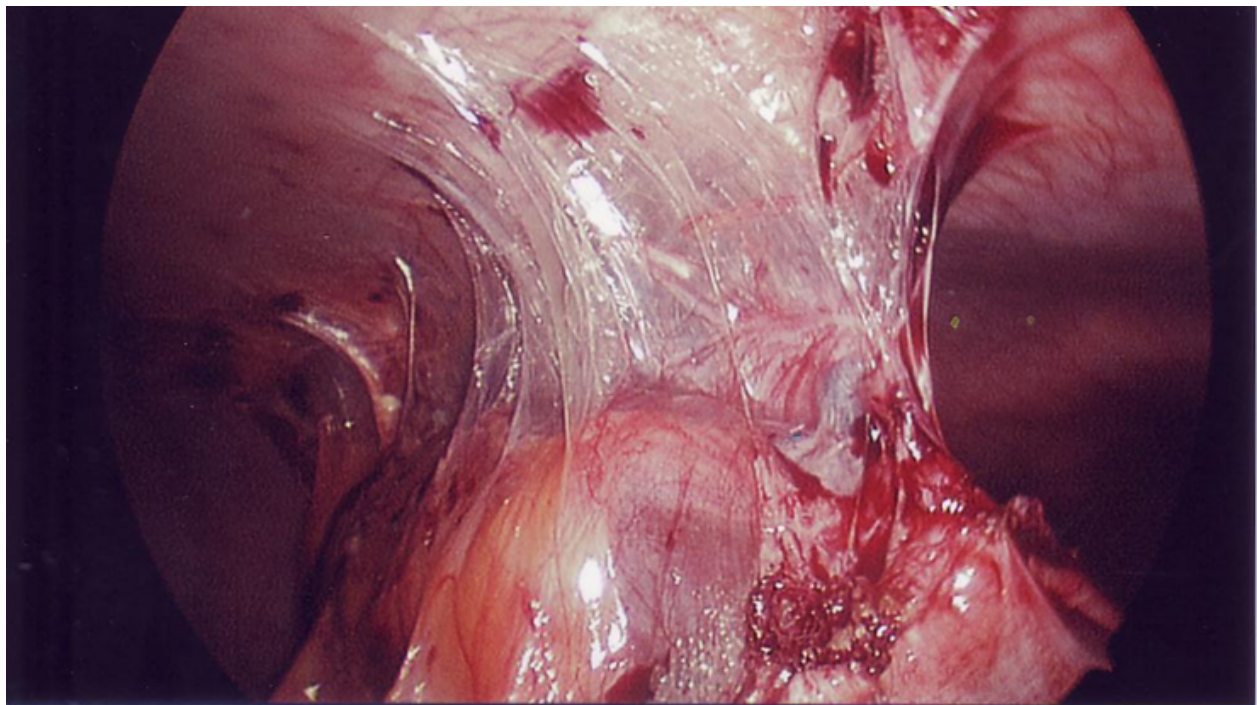


Figure 2: Severe small bowel adhesions to the anterior abdominal wall.

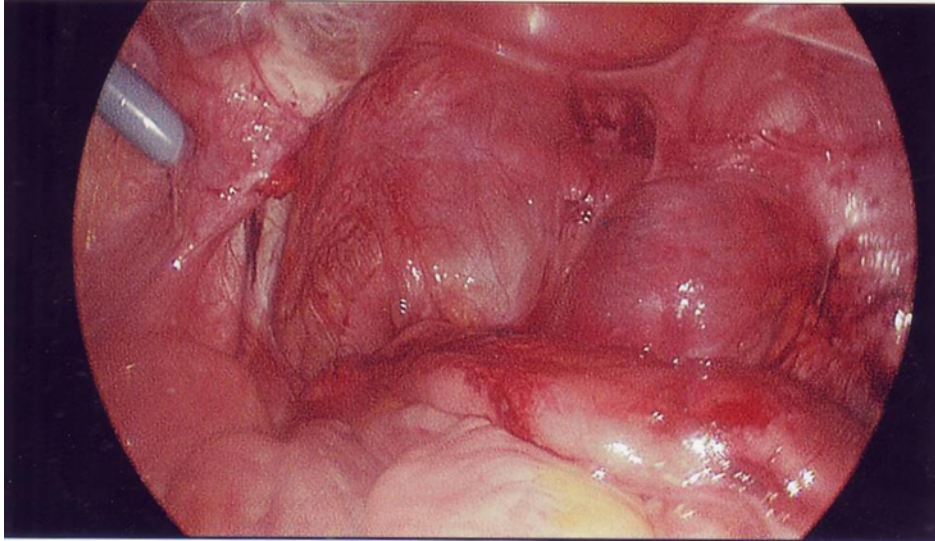


Figure 3: Severe pelvic adhesions with the left ovary (right above the secondary trocar) attached to the anterior abdominal wall.

Commentary

Laparoscopic surgery in cases of severe adhesions may have supremacy over traditional surgery because of the magnification power. The anatomy in those rare cases where no planes for dissection can be identified would rather be dealt with the open way. In most cases, however, the adhesions are mild to moderate and the surgeon can start with the evident part of the anatomy and follow the dissection planes removing scar tissue and restoring normal structure until one can see the target organ. Once you start taking down the adhesions and restoring the normal anatomy then what looked impossible at the beginning of the operation will look more and more feasible and even easier to do laparoscopically. In addition, the less aggressive handling of the bowel during laparoscopic surgery prevents ileus problems postoperatively and seems to do patients additional good. Also, from our experience, adhesion reformation tends to be less evident

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after laparoscopic surgery than after traditional surgery and these patients come back less frequently for recurrent surgery. The fact that these patients ambulate early after operation and return home the same day disrupts the process of adhesion leading to better anatomical outcome and less pain in the short and long term.

We learned from our intention-to-treat study published in 2010⁴ that an advanced laparoscopist can treat the overwhelming majority of nonmalignant cases minimal-invasively. The above case demonstrates to what extent laparoscopy can be deployed. Some people say that there are many contraindications for laparoscopic surgery. We think they are very few. Even with somebody who arguably had some degree of generalized peritonitis there is usually, unless they had gastric surgery, Nissen fundoplication or splenectomy, protection of the left upper quadrant, i.e. the left upper quadrant will be clear.⁵

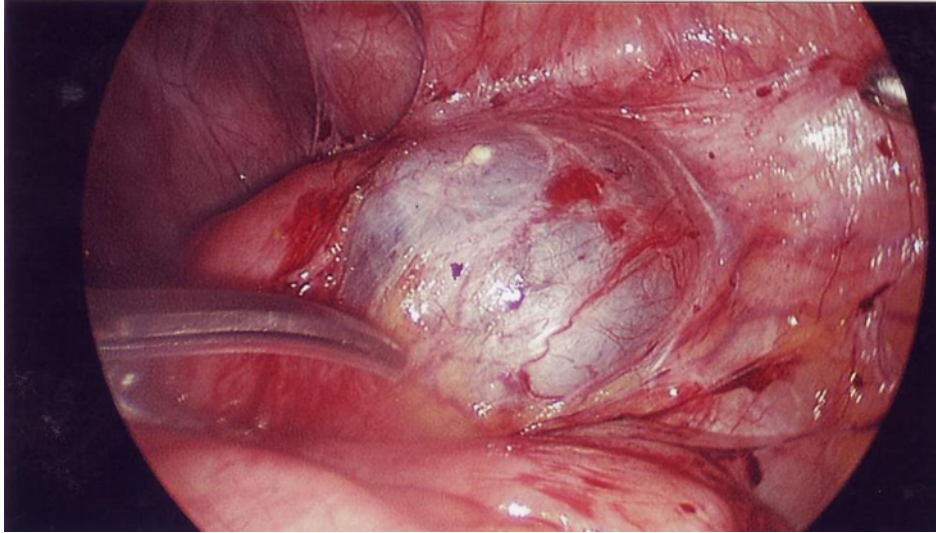


Figure 4: The enlarged right ovary protruding through cleared bowel adhesions.

We conclude from this case that what looks initially impossible is usually far from it and that laparoscopic surgery can have broader range of indications in the hands of an advanced minimal invasive surgeon with experience in using the Harmonic Scalpel and confidence in dealing with distorted anatomy for whom extensive adhesiolysis would be easy, maybe monotonous at most.

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