Images in Gynecologic Surgery

Narrow-Band Imaging in Laparoscopic Management of Recurrent Platinum Sensitive Ovarian Cancer

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DISCUSS
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The recurrence risk for advanced ovarian cancer managed using surgical cytoreduction and adjuvant chemotherapy is 60% to 70% [1]. The standard treatment of recurrent disease is still under debate and depends on patient history and characteristics of the tumor [1,2]. Recently, the role of cytoreductive surgery for platinum-sensitive cancer has been reassessed, and findings indicate that residual tumor is the most valuable determining factor for survival, even in recurrent disease [3]. Preliminary data seem to demonstrate that the addition of hyperthermic intraperitoneal intraoperative chemotherapy (HIPEC) could improve overall survival in these patients [4,5]. Laparoscopic evaluation performed before cytoreductive surgery and HIPEC can be helpful both to obtain a pathologic diagnosis of recurrent disease and to examine the possibility of complete surgical debulking [6]. In particular, the use of narrow-band imaging (NBI; Olympus Winter & Ibe GmbH, Hamburg, Germany) is proving to be a good adjunct for laparoscopic evaluation, enabling clarification of the structures observed and, thus, facilitating the diagnosis [7]. Herein we describe our experience with use of NBI during diagnostic laparoscopy in 2 platinum-sensitive patients with recurrent ovarian cancer.

Case 1

A nulliparous 67-year-old woman with body mass index of 30 and a family history of uterine cancer had previously undergone longitudinal laparotomy for total hysterectomy, bilateral salpingo-oophorectomy, and omentectomy, with a definitive diagnosis of grade 2 endometrioid ovarian adenocarcinoma (FIGO stage IC) [8]. The patient subsequently received platinum-based adjuvant chemotherapy. After 15 months, a positron-emission tomography–computed tomography scan demonstrated recurrence of disease, with a solid 26-mm lesion on the vaginal wall. Pelvic ultrasound examination confirmed this finding.

Diagnostic laparoscopy was performed, per our internal protocol. During the procedure, it was possible to ascertain the presence of extensive viscerovisceral and visceroparietal adhesions that precluded exploration of the hypochondrium and left side of the pelvic cavity. To obtain histologic proof of recurrent disease, we attempted to better visualize the peritoneal disease using NBI, and observed a millimetric NBI-positive nodule on the surface of the pelvic peritoneum (Fig. 1). Target NBI-guided biopsy was performed, which yielded samples positive for intraperitoneal recurrence at the definitive pathologic diagnosis. Two weeks after laparoscopy, the patient underwent complete cytoreduction (residual tumor equal to 0) plus platinum-based HIPEC.

Case 2

A 63-year-old woman with body mass index of 25 had previously undergone longitudinal laparotomy for total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and pelvic and lumbar-aortic lymphadenectomy, with
a definitive diagnosis of FIGO stage IIIC tubal undifferentiated adenocarcinoma. The patient subsequently received platinum-based adjuvant chemotherapy.

After 7 months, a computed tomography scan demonstrated a coarse mass of approximately 6 cm in hepatic segment VII. The patient underwent diagnostic laparoscopy per our internal protocol, which confirmed the presence of known nodule of liver segment VII. The nodule appeared exophytic, with an irregular surface. In addition, 3 millimetric nodules were observed on the diaphragmatic peritoneum (Fig. 2). All lesions described were positive at NBI. NBI-guided biopsy was performed on all nodules visible at NBI, and pathologic diagnosis confirmed that they represented recurrent disease. After 1 week, debulking was performed (residual tumor equal to 0) and platinum-based HIPEC was administered.

Endoscopic biopsy in gynecologic oncologic disease is often considered necessary for the diagnosis of a suspected malignant lesion [9,10], in particular in the presence of an unclear clinical appearance.

The NBI system is a filter that enables increased predictive value of identified lesions during endoscopic procedures through enhancement of irregular patterns of capillaries and blood vessels on the mucosal surface, and is also useful for visualization of malignant implants.

We were able to diagnose 2 cases of peritoneal implants of ovarian borderline tumor and carcinoma of the cervix using the NBI technique to improve neoplastic implant identification [7,11]. Use of NBI could be a new tool applicable to laparoscopy for management of gynecologic oncologic disease. We report here 2 cases of recurrent ovarian cancer in which the histologic diagnosis was greatly facilitated via use of NBI.

From a clinical point of view, laparoscopy is the easiest means to identify early recurrence disease and to evaluate the possibility of cytoreduction, averting in some cases a not useful laparotomy. The role of laparoscopy in selected cases of recurrent ovarian cancer treated surgically is not widely agreed on. In our opinion, a second radical surgery and HIPEC is useful for assessment with reasonable accuracy.

Surgery is in constant evolution, and engineering efforts are improving the possibilities. Therefore, as the field of gynecologic oncology continues to expand, the role of every instrument useful to improve the global care of patients should be discussed.

This is our third described experience with intraoperative application of NBI in an oncologic procedure in which the pathologic findings were directly attributable to the NBI appearance.
We believe that NBI could be another useful and easy-to-perform tool to enable recognition of neoplastic peritoneal lesions and to assist in intraoperative decision making.

References