Fertility results and outcomes after pure laparoscopic management of advanced-stage serous borderline tumors of the ovary

The outcomes of 18 patients treated with pure laparoscopic management (treated conservatively in 14 patients) of serous borderline ovarian tumors with peritoneal implants were reviewed. Eight patients relapsed (three with an invasive recurrence), but none of the patients without residual disease at the end of surgery, or invasive implants or disease with a micropapillary pattern relapsed under the form of invasive carcinoma. (Fertil Steril® 2010;94: 2891–4. ©2010 by American Society for Reproductive Medicine.)

Key Words: Borderline ovarian tumor, peritoneal implants, conservative surgery, fertility, laparoscopy, pregnancy

Nearly one-third of serous borderline ovarian tumors (SBOT) are diagnosed in patients less than 40 years of age, which is in a group of patients in whom fertility-preserving treatments should be considered (1). Several studies have demonstrated the advantage of a laparoscopic approach for the surgical management of stage I SBOT (2–5). Such an approach seems to improve the immediate postoperative quality of life and (perhaps) fertility results by reducing adhesions due to a possible laparotomy without increasing the risk of recurrence (2–6). The aim of the present study was to examine the feasibility and impact of laparoscopic management of patients with SBOT and peritoneal implants. This is a subject that, at present, has been poorly studied.

Between January 2001 and June 2006, 18 patients with advanced-stage SBOT underwent pure laparoscopic management. No patient with similar criteria during the period of the study was excluded from the analysis. Details concerning patients are shown in Table 1. The number of patients with stage II and stage III disease were 3 and 15, respectively. Four patients had a bilateral tumor. Thirteen patients were treated conservatively.

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Four patients had macroscopic stage I disease but with microscopic implants found on the omentum or in peritoneal biopsy samples (stage IIIA). All of the other patients had macroscopic peritoneal implants (<5 mm in all of them except for case 10 whose implants [measuring 1 cm] were laparoscopically removed at another institution) with intentional removal of the peritoneal spread during the laparoscopic approach. The treatment of the peritoneal disease was large biopsies in 13 patients and large peritonectomies in 5 patients (pelvic peritoneum in 5 associated with peritonectomies of paracolic gutters in 2 and of the peritoneum of the right diaphragmatic peritoneum in 3). An infracolic omentectomy or large omental biopsies were performed in seven patients. One patient had undergone pelvic node picking.

One patient, initially treated in another institution, had a residual disease of 1 cm (case 10). Two other patients had millimetric macroscopic residual disease (cases 1 and 6). All of the other patients had undergone a complete removal of their peritoneal implants.

During the histologic analysis, one patient (treated initially at another institution, case 5) had invasive implants. Histologic analysis of the ovarian tumor demonstrated the presence of stromal microinvasion in eight patients, and a micropapillary pattern was found in eight patients. One patient (case 13) had received adjuvant chemotherapy (six courses of platinum-based therapy and paclitaxel regimen).

After a median follow-up of 38 months (range, 14–140 months), eight patients relapsed. All of them had undergone surgical management of their recurrent disease: three patients, who had relapsed after conservative surgery, had undergone conservative laparoscopic surgery for an ovarian recurrence and one patient had undergone a unilateral salpingo-oophorectomy with uterine preservation.

Seven recurrences occurred after conservative treatment: two were located exclusively on the ovary (borderline recurrence); three on the ovary and peritoneum (borderline ovarian recurrence and noninvasive implants); and two exclusively had an abdominal

TABLE 1

Clinical characteristics of our study group.

Patient No.	Age	SMI	MP	Surgical treatment of ovary and peritoneum	Recurrence delay (mo)	Location of recurrence	Treatment of recurrence	Fertility results	Outcome of pregnancy	Actual status	Follow-up (mo)[a]
1	34	Yes	Yes	BSO+TH+ PB	—	—	—	—	—	Remission	36
2	32	Yes	No	USO+CC+LPR	—	—	—	—	—	Remission	14
3	23	No	No	LPR+UC+ovarian biopsy	—	—	—	—	—	Remission	38
4	33	No	Yes	BSO+ + PB	—	—	—	—	—	Remission	15
5	40	No	No	UC+PB + salpingectomy	Yes (11)	Peritoneum	Radical surgery + chemotherapy	—	—	Remission	40
6	28	No	No	USO+Oment+PB + ovarian biopsy	Yes (16)	Ovary	Cystectomy	1 pregnancy	1 term delivery	Remission	19
7	54	No	Yes	BSO+HT+PB + omentectomy	—	—	—	—	—	Remission	26
8	56	No	No	BSO+ PB	—	—	—	—	—	Remission	74
9	26	Yes	No	USO+ Oment+ PB	—	—	—	—	—	Remission	26
10	52	Yes	Yes	BSO+LPR	Yes (4)	Peritoneum + vagina	Biopsy + chemotherapy	—	—	Palliative course	46
11	33	Yes	No	LPR+USO	—	—	—	2 pregnancies	1 term delivery 1 ectopic pregnancy	Remission	55
12	34	Yes	No	USO+CC+Oment+ PB	Yes (43)	Ovary+ pelvic peritoneum	Radical surgery	Secondary infertility	—	Remission	26
13	26	Yes	No	USO+LPR+Oment	Yes (11)	Ovary + peritoneum	Radical surgery with uterus preservation	Secondary infertility	—	Remission	36
14	29	No	Yes	LPR+Oment+PB+ USO	Yes (43)	Peritoneum	Radical surgery + chemotherapy	1 pregnancy	1 term delivery	Died of disease	71
15	29	No	Yes	USO+PB	—	—	—	1 pregnancy	1 term delivery	Remission	86
16	25	No	Yes	USO+ +PB	Yes (53)	Ovary and pelvic peritoneum	BC	2 pregnancies	1 term delivery 1 miscarriage	Remission	105
17	26	Yes	Yes	USO+CC+PB+Oment	—	—	—	Secondary infertility	—	Remission	134
18	16	No	No	UC+Oment+ PB	Yes (26)	Ovary	USO	Secondary infertility	—	Remission	140

Note: SMI = stromal microinvasion; MP = micropapillary pattern; USO = unilateral salpingo-oophorectomy; BSO = bilateral salpingo-oophorectomy; CC = contralateral cystectomy; UOC = unilateral ovarian cystectomy; TH = total hysterectomy; Oment = infracolic omentectomy or omental biopsies; LPR = large peritoneal resection; PB = peritoneal biopsies.

[a] Duration of follow-up since the laparoscopic treatment of the peritoneal disease.

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