Tragic results of suboptimal gynecologic cancer operations

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Summary

Objective: The goal of this study was to analyze gynecological cancer patients who underwent suboptimal or failed surgeries with unsatisfactory and undesired results. *Study design:* During 1997-2007, 74 women were referred to our gynecological oncology service after suboptimal or failed surgeries for ovarian, cervix, endometrium and vulvar cancers. Medical records were evaluated retrospectively to determine the reasons of suboptimal surgery. *Results:* Optimal cytoreduction was achieved in ten women (21.7%), 32 women (69.5%) had suboptimal surgical cytoreduction and four women (8.6%) had failed surgery, Seven patients were recurrences (3 had liver metastasis, 2 had pelvic metastasis, 2 had bladder metastasis); two patients died due to bladder metastasis, one patient died six days after surgery due to a pulmonary embolism in the suboptimal cytoreduction group, and one patient died due to ascites in the failed surgery group. Optimal surgery was achieved in three women (27.2%) and eight women (72.7%) had suboptimal surgery in the cervical cancer population. One patient had a recurrence with pelvic metastasis in the suboptimal group. Suboptimal surgery was achieved in one woman with vulvar cancer. Optimal surgery was achieved in seven women (43.7%) and nine women (56.2%) had suboptimal surgery in the endometrial cancer population. One patient died 11 days after surgery due to sepsis in the optimal surgery group. One patient died 21 months after primary surgery and the other patient had a recurrence with paraaortic lymph nodes, ascites and omental thickening in the suboptimal surgery group. The prognosis of 30 (65.2%) women in the ovarian cancer population, eight (72.7%) women in the cervical cancer group, 11 (68.7%) women in the endometrial cancer group, and one woman (100%) in the vulvar cancer population was unknown. The unknown cases of all genital cancers were missed during follow-up and we could not reach them using their phone or address information. *Conclusion:* If a gynecologist does not have enough experience or expertise about gynecological cancer operations, he or she must consider the possible harm that any surgical intervention might do, as the latin phrase *"primum non nocere"* means and should refer patients to a gynecological oncology center without performing any surgery. Optimal gynecologic surgery can only be carried out correctly when education becomes available throughout the world. Thus postgraduate fellowship programs should be considered urgently to extend the general gynecologists' surgical experience and expertise in developing and undeveloped countries.

Key words: Gynecological cancer; Optimal cytoreduction; Suboptimal surgery; Optimal surgey.

Introduction

Gynaecological cancers are the leading cause of morbidity and mortality in the world with varying incidences and outcomes depending on the country, and account for between 10% and 15% of women's cancers [1].

Surgical management is usually the first choice of treatment for many genital tract malignancies depending on the site of tumor involvement. For carcinoma of the endometrium, ovary and vulva, surgery is the primary choice of treatment and is usually therapeutic, while a radical operation is often used as a curative procedure for early-stage carcinoma or for central tumor recurrence [2].

Despite clear, clinically accepted guidelines, and advanced surgical techniques for gynecological cancer, considerable numbers of patients with genital cancers are treated unintentionally by subopitmal or failed surgeries [3-5].

The goal of the present study was to analyze gynecological cancer patients who underwent suboptimal or failed surgeries with unsatisfactory and undesired results. We analyzed suboptimal surgeries in gynecological cancer patients. These results may highlight the importance of postgraduate fellowship programs for general gynecologists and patient education.

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Material and Methods

Between September 1997 and August 2007, 74 women were referred to our gynecological oncology service after suboptimal or failed surgeries for ovarian, cervix, endometrium and vulvar cancers. From the available patient medical records, we retrospectively extracted clinical data, including age at diagnosis, education status, number of children, radiographic or physical examination findings, preoperative histopathology, preoperative CA-125 values, clinical diagnosis, surgical staging (type of surgery, omentectomy, pelvic and paraaortic lymph node sampling, appendectomy), surgical stage, postoperative histopathology, recurrence, recurrence interval after primary surgery, recurrence treatment, mortality and mortality interval after primary surgery.

Results

The characteristics of the women are shown in Table 1a. Optimal surgery was achieved in ten women (21.7%) (patient nos.1-10), 32 women (69.5%) had suboptimal surgery (patient nos. 11-42), and four women (8.6%) had failed surgery (patient nos. 43-46) in the ovarian cancer population. Mean age for the ovarian cancer population was 49 years (range 13 to 82). The majority of optimal surgery (n = 6, 13%) and suboptimal surgery (n = 23, 50%) cases had serous histology in the ovarian cancer population. The four (8.6%) cases with metastatic ovarian cancer (Signet ring cell carcinoma) had failed surgery. The major-

Table 1a.

Patient	Age	Higher education	No. of children	Radiographic or physical findings	Preoperative histopathology	Preop. CA-125	Clinical diagnosis	Primary surgery	Omentectomy	Pelvic lymph node dissection	Paraaortic lymph node dissection	Appendectomy	Surgical stage
1	14	No	virgin	15x13x12 cm pelvic mass	–	23	Pelvic mass	Left USO-TAH	Yes	Yes	Yes	Yes	1a
2	41	College	virgin	17x13x13 cm pelvic cystic mass	–	105	Pelvic mass	TAH-BSO/pelvic paraaortic lymph node sampling	Yes	Yes	Yes	Yes	2b
3	28	No	1	–	Serous papillary ovarian ca	87	Ovarian cancer	BSO-TAH	Yes	Yes	Yes	Yes	2b
4	24	No	1	5x6x3 cm left adnexal cystic mass	BMT of the ovary		BMT	Type 2 hysterectomy/ BSO	Yes	Yes	Yes	Yes	2a
5	44	No	3	15x11x9 cm solid pelvic mass	–	2125	Pelvic mass	TAH-BSO/ cystic mass extraction	Yes	Yes	Yes	Yes	3c
6	70	No	5	15x13x10 cm adnexal cystic mass	–	729	Adnexal mass	TAH-BSO/ cystic mass extraction	Yes	Yes	Yes	Yes	4b
7	30	No	3	–	BMT of the ovary	7	BMT	BSO, external and internal lymph node sampling/peritoneal sampling	–	Yes	Yes	Yes	2a
8	53	No	5	18x14x10 cm right adnexal mass	–	96	Adnexal mass	TAH-BSO	Yes	Yes	Yes	Yes	3b
9	57	No	11	8x7x4 cm solid pelvic mass	–	5000	Pelvic mass	TAH-BSO	Partial omentectomy	Yes	Yes	Yes	3b
10	59	No	3	5x4x2 cm left adnexal solid mass	–	18	Adnexal mass	TAH-BSO	Yes	Yes	Yes	Yes	3b
11	33	No	virgin	15x13x13 cm left adnexal mass	–	43	Adnexal mass	Left USO, right ovarian biopsy	No	No	No	No	1a
12	73	No	5	–	–	–	Recurrent ovarian ca	TAH-BSO	Yes	No	No	Yes	4b
13	61	No	4	8x7x7 cm right adnexal mass/ascites	–	15	Adnexal mass	Subtotal hysterectomy/ adnexal/mass ext.	Partial	No	No	No	4a
14	65	No	6	3x3 cm right adnexal mass/ascites	–	25	Adnexal mass	TAH-BSO	Yes	No	No	No	3a
15	63	No	7	Ascites, 5x5x5 cm pelvic cystic mass	–	236	Pelvic mass	TAH-BSO/cyst ext.	Yes	No	No	No	4a
16	65	No	6	Ascites, 6x5x8 cm pelvic cystic mass	–	1492	Pelvic mass	TAH-BSO/ cyst mass extraction	Yes	No	No	No	3c
17	42	No	9	–	Serous papillary ovarian ca	2	Ovarian ca	BSO-TAH	Yes	Yes	No	No	3b
18	42	No	6	8x2x5 cm pelvic mass	–	41	Pelvic mass	TAH-BSO/solid pelvic mass extraction	Partial omentectomy	No	No	No	3b
19	40	No	0	–	–	25	Pelvic mass	TAH-BSO/sigmoid colon resection and colostomy	Yes	No	No	No	4b
20	52	No	6	–	–	–	Recurrent ovarian ca	TAH-BSO	No	No	No	No	4b
21	63	No	6	5x4 cm right adnexal mass	–	21	Pelvic mass	TAH-BSO	Partial omentectomy	Yes	No	No	3b
22	40	No	1	12x14x14 cm pelvic mass	–	–	Pelvic mass	TAH-BSO/solid pelvic mass extraction	Yes	No	No	No	3c
23	64	No	5	Ascites, 14x10x12 cm solid mass	–	633	Pelvic mass	Solid pelvic mass extraction (frozen pelvis)	Partial omentectomy	No	No	No	3c
24	58	No	7	9x12x16 cm pelvic cystic mass	–	974	Pelvic mass	TAH-BSO	Yes	No	No	No	2b
25	52	No	9	–	–	2150	Pelvic mass	TAH-BSO/ solid mass extraction	Partial omentectomy	No	No	Yes	2b

carcinoma: ca; unilateral salpingo-oophorectomy: USO; bilateral salpingo-oophorectomy: BSO; total abdominal hysterectomy: TAH; extirpation: ext; squamous cell carcinoma: SCC; carcinosarcoma: CS; adenocarcinoma: AC.

Patient	Age	Higher education	No. of children	Radiographic or physical findings	Preoperative histopathology	Preop. CA-125	Clinical diagnosis	Primary surgery	Omentectomy	Pelvic lymph node dissection	Paraaortic lymph node dissection	Appendectomy	Surgical Stage
26	20	No	virgin	12x9x7 cm pelvic cystic mass	–	3	Pelvic mass	TAH-BSO/ cystic mass extraction	Yes	No	No	Yes	1c
27	70	No	0	9x8x5 cm solid pelvic mass	–	97	Pelvic mass	(Laparotomy) peritonitis carcinomatosa	Partial omentectomy	No	No	No	4b
28	34	No	virgin	6x6x6 cm pelvic cystic mass	–	379	Pelvic mass	Bilateral ovarian mass ext.	Yes	No	No	No	2b
29	52	No	2	–	–	24	Ovarian ca	TAH-BSO	No	No	No	No	3b
30	45	No	8	30x40x40 cm pelvic mass	–	5000	Pelvic mass	TAH-BSO/ cystic mass extraction	Partial omentectomy	No	No	No	3c
31	48	No	8	–	–	–	Pelvic mass	TAH-BSO	Yes	No	No	No	3c
32	64	No	6	–	–	30	Pelvic mass	TAH-BSO	No	No	No	No	3c
33	17	No	virgin	17x12x12 cm solid pelvic mass	–	43	Pelvic mass	Left USO	Yes	No	No	No	1a
34	61	No	6	13x13x12 cm cystic mass	–	1166	Pelvic mass	TAH-BSO/ cystic mass extraction	No	No	No	No	4b
35	68	No	11	13x13x12 cm solid adnexal mass	–	2	Pelvic mass	TAH-BSO	Yes	No	No	Yes	3c
36	26	No	virgin	14x6x7 cm solid cystic mass	–	16	Pelvic mass	TAH-BSO/solid mass extraction and partial resection of bladder due to cancer invasion	Yes	No	No	No	4b
37	42	No	8	15x12x10 cm adnexal mass	–	452	Adnexal mass	TAH-BSO	No	No	No	No	3c
38	13	No	virgin	25x13x12 cm solid pelvic mass	–	12	Pelvic mass	Right USO/ solid mass extraction	No	No	No	No	2b
39	82	No	11	5x6x8 cm adnexal mass	–	42	Adnexal mass	Type 2 hysterectomy/ BSO	Partial omentectomy	No	No	No	2b
40	50	No	6	Ascites, 9x7x6 cm solid pelvic mass	–	12	Pelvic mass	TAH-BSO/ solid mass extraction	Partial omentectomy	No	No	No	3c
41	70	No	0	13x11x10 cm solid pelvic mass	–	1759	Pelvic mass	TAH-BSO	Partial omentectomy	No	No	No	3c
42	58	No	7	–	–	124	Ovarian ca	TAH-BSO	No	No	No	No	4a
43	33	No	2	–	–	107	Recurrent ovarian ca	TAH-BSO	–	–	–	–	4b
44	56	No	9	17x10x13 cm pelvic mass	–	113	Pelvic mass	TAH-BSO/ cystic mass extraction	Omental sampling	No	No	Yes	4b
45	45	No	6	5x6x4 cm right adnexal mass and 3x3x2 cm left adnexal mass	–	71	Adnexal mass	TAH/BSO/ bilateral solid mass extraction	Omental sampling	No	No	No	4b
46	46	No	3	6x5x4 cm left adnexal cystic mass	–	524	Adnexal mass	TAH-BSO	Yes	No	No	No	4b
47	37	No	5	–	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	Yes	–	1b1
48	41	No	7	–	Cervical AC	–	Cervical ca	Type 3 hysterectomy	–	Yes	Yes	–	1b1
49	40	No	6	–	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	Yes	–	1b1
50	28	No	3	5x4x4 cm solid cervical mass	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	No	–	1b1
51	60	No	2	5x3x2 cm cervical mass	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	No	–	1b1
52	39	No	8	–	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	No	–	1b1
53	48	No	8	–	Cervical SCC large cell non-keratinizing type	–	Cervical ca	Type 3 hysterectomy	–	No	No	No	1b1
54	36	No	6	–	Cervical AC	–	Cervical ca	Type 3 hysterectomy	–	No	No	No	1b1
55	58	No	8	–	Cervical SCC	–	Cervical ca	Type 3 hysterectomy	–	Yes	No	–	1b1

Patient	Age	Higher education	No. of children	Radiographic or physical findings	Preoperative histopathology	Preop. CA-125	Clinical diagnosis	Primary surgery	Omentectomy	Pelvic lymph node dissection	Paraaortic lymph node dissection	Appendectomy	Surgical Stage
56	78	No	6	–	Cervical SCC	–	Inoperable cervical ca	Paraaortic lymph node sampling	–	No	Yes	–	1b2
57	46	No	9	–	Cervical AC	–	Cervical ca	Type 3 hysterectomy	–	No	No	Yes	2a
58	48	No	8	–	Vulvar ca	–	Vulvar ca	Radical vulvectomy/ femoral lymph node sampling	–	–	–	–	2
59	55	No	10	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy	–	Yes	Yes	Yes	1b
60	56	No	3	–	Endometrial AC	75	Endometrial ca	BSO	–	Yes	Yes	Yes	1b
61	60	No	3	–	Endometrial AC	21	Endometrial ca	Extrafacial hysterectomy/ BSO	–	Yes	Yes	Yes	1c
62	65	No	2	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy/ BSO	–	Yes	Yes	Yes	1c
63	65	No	4	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy/ BSO	–	Yes	Yes	Yes	3c
64	64	No	9	–	LMS	11	LMS	Extrafacial hysterectomy/ BSO	–	Yes	Yes	Yes	3c
65	70	No	10	3x4x2 cm solid cervical mass	CS	17	Uterine CS	Extrafacial hysterectomy/ BSO	–	Yes	Yes	Yes	2b
66	75	No	10	15x13x14 cm pelvic cystic mass	–	No	Pelvic mass	TAH-BSO/ invasive cystic mass extraction and colostomy	–	No	No	No	4a
67	43	No	5	–	Endometrial AC	14	Endometrial AC	Extrafacial hysterectomy/ BSO	–	Yes	No	No	1b
68	60	No	0	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy/ BSO	–	No	No	No	1b
69	63	No	3	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy/ BSO	Partial omentectomy	No	No	No	1c
70	32	No	0	–	Endometrial AC	–	Endometrial ca	Extrafacial hysterectomy/ BSO	–	No	No	No	1b
71	41	No	2	–	Endometrial AC	42	Endometrial ca	Extrafacial hysterectomy/ BSO	–	No	No	No	1c
72	46	No	3	–	Endometrial AC	17	Endometrial ca	Extrafacial hysterectomy/ BSO	–	No	No	No	1c
73	47	No	virgin	–	Endometrial AC	27	Endometrial ca	Extrafacial hysterectomy/ BSO	–	Yes	No	No	1c
74	54	No	3	–	Endometrial AC	23	Endometrial ca	Type 2 hysterectomy/ BSO	–	No	No	No	1c

ity of optimal surgery (n = 3, 6.5%) cases had Stage IIIB disease and the majority of suboptimal surgery (n = 10, 21.7%) cases had Stage IIIC disease (Table 2).

Prognoses of the optimal surgery group in the ovarian cancer population were as follows: the prognosis of three cases (patient nos. 1-3) was unknown. The other seven cases were under control and follow up regularly (patient nos: 4-10) (Table 1b).

The prognosis of the suboptimal surgery group in the ovarian cancer population was as follows; prognoses of 24 women (patient nos. 11, 13-15, 17, 19, 22-26, 28-35, 37-40, 42) were unknown. Seven women had recurrences (patient nos. 12, 16, 18, 20, 21, 36, 41). Three had liver metastases, two had pelvic metastases, and two had bladder metastases. One woman died three months after bladder metastasis (patient no: 12), one woman died six days after surgery due to a pulmonary embolism (patient no. 27), and one woman died one month after bladder metastasis (patient no. 36) (Table 1a).

The prognosis of failed surgery patients in the metastatic ovarian cancer population was as follows: three were unknown, and one died due to ascites after six months of recurrence (patient no. 43) (Table 1b).

Optimal surgery was achieved in three women (27.2%) (patient nos. 47-49), and eight women (72.7%) had suboptimal surgery (patient nos. 50-57) in the cervical cancer population. Mean age for the cervical cancer population was 51 years (range 28 to 78). The majority of optimal surgery (n = 2, 18.1%) and suboptimal surgery (n = 6, 54.5%) cases had squamous histology in the cervical cancer population. All of the optimal surgery (n = 3, 27.2%) cases had Stage 1b1 disease and the majority of suboptimal surgery (n = 6, 54.5%) cases had Stage 1b1 disease (Table 3).

The prognosis of the optimal surgery cases in the cervical cancer population was as follows: the prognosis of one case (patients no. 47) was unknown. The other two cases were under control and follow-up regularly (patients nos. 48, 49) (Table 1b).

The prognosis of the suboptimal surgery patients in the cervical cancer population was as follows: the prognosis

Table 1b.

Patient	Histopathological diagnosis after surgery	Recurrence	Recurrence interval after primary surgery (months)	Recurrence treatment	Survival	Mortality interval after primary surgery (months)
1	Ovarian dysgerminoma	Unknown	Unknown	Unknown	Unknown	Unknown
2	Ovarian GCC	Unknown	Unknown	Unknown	Unknown	Unknown
3	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
4	Ovarian BMT	–	–	–	–	–
5	Ovarian serous papillary AC	–	–	–	–	–
6	Ovarian serous papillary AC	–	–	–	–	–
7	Ovarian BST	–	–	–	–	–
8	Ovarian serous papillary AC	–	–	–	–	–
9	Ovarian serous papillary AC (grade 3)	–	–	–	–	–
10	Ovarian serous papillary AC	–	–	–	–	–
11	Ovarian dysgerminoma	Unknown	Unknown	Unknown	Unknown	Unknown
12	Ovarian transitional cell ca	4x4x4 cm solid mass originating from bladder posterior	46	2 cycles hycamtin chemotherapy	Exitus	49
13	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
14	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
15	Ovarian mucinous cyst AC	Unknown	Unknown	Unknown	Unknown	Unknown
16	Ovarian serous papillary AC	6x5x5 cm cystic mass originating from liver/ascites	24	Unknown	Unknown	Unknown
17	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
18	Ovarian serous papillary AC	Right pelvic mass	6	Pelvic mass extraction and left iliaca external lymph node extraction	Unknown	Unknown
19	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
20	Ovarian serous papillary AC	Multiple liver metastases/ascites	5	6 cycles PT	Unknown	Unknown
21	Ovarian serous papillary AC	14x12x10 cm liver metastases	48	Unknown	Unknown	Unknown
22	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
23	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
24	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
25	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
26	Ovarian GCT (dysgerminoma + yolk sac)	Unknown	Unknown	Unknown	Unknown	Unknown
27	Ovarian serous papillary AC	–	–	–	Exitus	6 days after primary surgery due to PE
28	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
29	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
30	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
31	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
32	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
33	Ovarian dysgerminoma	Unknown	Unknown	Unknown	Unknown	Unknown
34	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
35	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
36	Ovarian yolk sac ca	8x8x7 cm solid mass originating from bladder	11	No	Exitus	12
37	Ovarian mucinous cyst AC	Unknown	Unknown	Unknown	Unknown	Unknown
38	Ovarian yolk sac ca	Unknown	Unknown	Unknown	Unknown	Unknown
39	Ovarian BBT	Unknown	Unknown	Unknown	Unknown	Unknown
40	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
41	Ovarian serous papillary AC	12x7x7 cm solid pelvic mass	Unknown	Unknown	Unknown	Unknown
42	Ovarian serous papillary AC	Unknown	Unknown	Unknown	Unknown	Unknown
43	Metastatic ovarian ca (signet ring cell ca)	Ascites	18	6 cycles 5 FU	Exitus	24
44	Metastatic ovarian ca (signet ring cell ca)	Unknown	Unknown	Unknown	Unknown	Unknown

granulosa cell cancer: GCC; adenocarcinoma: AC; borderline mucinous cancer: BMT; borderline serous tumor: BST; borderline brenner tumor: BBT; pulmonary embolism: PE; squamous vulvar cancer: SVC; leiomyosarcoma: LMS; Uterine carcinosarcoma: UCS; germ cell tumor: GCT; pulmonary embolism: PE; differentiation: diff.

Patient	Histopathological diagnosis after surgery	Recurrence	Recurrence interval after primary surgery (months)	Recurrence treatment	Survival	Mortality interval after primary surgery (months)
45	Metastatic ovarian ca (signet ring cell ca)	Unknown	Unknown	Unknown	Unknown	Unknown
46	Metastatic ovarian ca (signet ring cell ca)	Unknown	Unknown	Unknown	Unknown	Unknown
47	Cervical SCC (large cell nonkeratinizing type)	Unknown	Unknown	Unknown	Unknown	Unknown
48	Cervical AC	–	–	–	–	–
49	Cervical SCC	–	–	–	–	–
50	Cervical SCC (keratinizing type)	9x9x7 cm solid pelvic mass	9	Radiotherapy	–	–
51	Cervical SCC (non-keratinizing type)	Unknown	Unknown	Unknown	Unknown	Unknown
52	Cervical SCC	Unknown	Unknown	Unknown	Unknown	Unknown
53	Cervical SCC (large cell non-keratinizing type)	Unknown	Unknown	Unknown	Unknown	Unknown
54	Cervical AC	Unknown	Unknown	Unknown	Unknown	Unknown
55	Cervical SCC	Unknown	Unknown	Unknown	Unknown	Unknown
56	Cervical SCC	Unknown	Unknown	Unknown	Unknown	Unknown
57	Cervical AC (grade 2)	Unknown	Unknown	Unknown	Unknown	Unknown
58	SVC	Unknown	Unknown	Unknown	Unknown	Unknown
59	Endometrioid AC	–	–	–	Exitus	11 days after primary surgery due to sepsis
60	Endometrial AC (secretory type)	Unknown	Unknown	Unknown	Unknown	Unknown
61	Endometrioid AC	Unknown	Unknown	Unknown	Unknown	Unknown
62	Endometrial AC (serous papillary type)	Unknown	Unknown	Unknown	Unknown	Unknown
63	Endometrioid AC	Unknown	Unknown	Unknown	Unknown	Unknown
64	LMS	–	–	–	–	–
65	UCS	–	–	–	–	–
66	LMS	Unknown	Unknown	Unknown	Exitus	21
67	Endometrioid AC	1.5 cm paraortic lymph node metastsis, omental thickening, ascites	41	3 cycles PT	–	–
68	Endometrioid AC	Unknown	Unknown	Unknown	Unknown	Unknown
69	Endometrioid AC	Unknown	Unknown	Unknown	Unknown	Unknown
70	Endometrioid AC (grade 1)	Unknown	Unknown	Unknown	Unknown	Unknown
71	Endometrioid AC (grade 2)	Unknown	Unknown	Unknown	Unknown	Unknown
72	Endometrioid AC with squamous diff.	Unknown	Unknown	Unknown	Unknown	Unknown
73	Endometrioid AC with squamous diff.	Unknown	Unknown	Unknown	Unknown	Unknown
74	Endometrioid AC	Unknown	Unknown	Unknown	Unknown	Unknown

of seven cases (patient nos. 51-57) was unknown. One patient had recurrence (patient no. 50) with pelvic metastasis and underwent radiotherapy treatment (Table 1b).

Suboptimal surgery was achieved in a 48-year-old woman with Stage II squamous type vulvar cancer (patient no. 58). The prognosis of this case was unknown (Tables 1b and 3).

Optimal surgery was achieved in seven women (43.7%) (patient nos. 59-65) and nine women (56.2%) had suboptimal surgery (patient nos. 66-74) in the endometrial cancer population. Mean age for the endometrial cancer population was 59 years (range 32 to 75). The majority of optimal surgery (n = 5, 31%) and suboptimal surgery (n = 8, 50%) cases had adenocancer histology in the uterine cancer population. The majority of optimal surgery (n = 4, 25%) cases had Stage Ib and Ic diseases and the majority of suboptimal surgery (n = 5, 31.2%) cases had Stage Ic disease (Table 3).

The prognosis of the optimal surgery patients in the endometrial cancer population was as follows: the prognosis of four cases (patient nos: 60-63) was unknown. One patient died 11 days after surgery due to sepsis (patient no. 59). The other two cases were under control and follow-up regularly (patients nos. 64-65) (Table 1b).

The prognosis of the suboptimal surgery patients in the endometrial cancer population was as follows: the prognosis of seven cases (patient nos. 68-74) was unknown. One patient died 21 months after primary surgery (patient no. 66) and the other patient had a recurrence with paraortic lymph node involvement, ascites and omental thickening (patient no. 67) (Table 1b).

The unknown cases of all genital cancers were missed

Table 2.

Histology	Optimal (n = 10, 21.7%)	Suboptimal (n = 32, 69.5%)	Failed (n = 4, 8.6%)	Total (n = 46, 100%)
Serous	6 (13)	23 (50)	–	29 (63)
Borderline serous	1 (2.1)	–	–	1 (2.1)
Mucinous	–	2 (4.3)	–	2 (4.3)
Borderline mucinous	1 (2.1)	–	–	1 (2.1)
Transitional cell	–	1 (2.1)	–	1 (2.1)
Borderline brenner	–	1 (2.1)	—	1 (2.1)
Granulosa cell	1 (2.1)		–	1 (2.1)
Yolk sac	–	2 (4.3)	–	2 (4.3)
Dysgerminoma	1 (2.1)	2 (4.3)	–	3 (6.5)
Mixed type germ cell tumor (dysgerminoma + yolk sac)	–	1 (2.1)	–	1 (2.1)
Metastatic ovarian cancer (signet ring cell carcinoma)	–	–	4 (8.6)	4 (8.6)
Stage				
IA	1 (2.1)	2 (4.3)	–	3 (6.5)
IC	–	1 (2.1)	–	1 (2.1)
IIA	2 (4.3)	–	–	2 (4.3)
IIB	2 (4.3)	4 (8.6)	–	6 (13)
IIIA	–	1 (2.1)	–	1 (2.1)
IIIB	3 (6.5)	5 (10.8)	–	8 (17.3)
IIIC	1 (2.1)	10 (21.7)	–	11 (23.9)
IVA	–	3 (6.5)	–	3 (6.5)
IVB	1 (2.1)	6 (13)	4 (8.6)	11 (23.9)

Table 3.

Cervical cancer histology	Optimal (n = 3) No. %	Suboptimal (n = 8) No. %	Total (n = 11) No. %
Squamous cell	2 (18.1)	6 (54.5)	8 (72.7)
Adenocarcinoma	1 (9.0)	2 (18.1)	3 (27.2)
Stage			
Ib1	3 (27.2)	6 (54.5)	9 (81.8)
Ib2	–	1 (9)	1 (9)
IIa	–	1 (9)	1 (9)
Endometrial cancer histology	**Optimal (n = 7) No. %**	**Suboptimal (n = 9) No. %**	**Total (n = 16) No. %**
Uterine adenocarcinoma	5 (31)	8 (50)	14 (87.5)
Uterine leiomyosarcoma	1 (6.2)	1 (6.2)	2 (12.5)
Uterine carcinosarcoma	1 (6.2)	–	1 (6.2)
Stage			
Ib	2 (12.5)	3 (18.7)	5 (31.2)
Ic	2 (12.5)	5 (31.2)	7 (43.7)
IIa	1 (6.2)	–	1 (6.2)
IIb	1 (6.2)	–	1 (6.2)
IIIc	1(6.2)	–	1 (6.2)
IVa	–	1 (6.2)	1 (6.2)
Vulvar cancer histology	**Optimal (n = 0) No. %**	**Suboptimal (n = 1) No. %**	**Total (n = 1) No. %**
Squamous cell		1 (100)	1 (100)
Stage			
II		1 (100)	1 (100)

during follow-up and we could not reach them with their phone or address information because the information was wrong or had changed (Table 1b).

Discussion

Therapeutic interventions for gynecological cancers include surgery, chemotherapy and radiotherapy, with combination modalities often required [1].

Ovarian cancer requires intensive and complex therapies and is demanding of the patient's psychological and physical energy. Ovarian cancer is the fifth most common cause of death from malignancy in women. Currently, the most widely accepted treatment for advanced stage epithelial ovarian cancer is cytoreductive surgery. The principal goal of cytoreductive surgery is removal of tumor to < 1.5 cm, followed by platinum/taxane combination chemotherapy [2].

Despite the advances in ovarian cancer treatment, optimal cytoreduction rates vary between 20% and 80%, and are dependent on tumor volume, tumor location, and the surgeon's education and experience [3]. Bristow *et al.* reviewed 53 studies with advanced stage ovarian carcinoma, and the average rate of optimal cytoreduction among all 53 studies was 42% [6]. Everett *et al.* detected 56 patients with ovarian carcinoma and the rate of optimal cytoreduction among patients was 48% [3]. Forty-six of the ovarian cancer cases that had been treated by optimal and suboptimal surgeries were referred to a gynecologic oncology service. Optimal cytoreduction was achieved in ten women (21.7%); 32 women (69.5%) had suboptimal surgical cytoreduction and four women (8.6 %) had failed surgery. Prognoses of ovarian cancer patients were as follows: three cases in the optimal surgery group, 25 cases in the suboptimal surgery group and three cases in the failed surgery group had unknown prognoses. Six patients had recurrences in the suboptimal surgery group (three - liver metastases, two - pelvic metastases, one - bladder metastasis). One patient died six days after surgery due to a pulmonary embolism in the suboptimal surgery group and one death was due to ascites in the failed surgery group.

Behtash *et al.* showed inadequate evaluation of 62 cases with invasive cervical carcinoma that had been treated by simple hysterectomy [5]. Eleven of the cervical cancer cases that had been treated by optimal and suboptimal surgeries were referred to a gynecology oncology service. Optimal cytoreduction was achieved in three women (27.2%) and eight women (72.7%) had suboptimal surgery [5]. Prognoses of cervical cancer patients were as follows: one case in the optimal surgery group and seven cases in the suboptimal surgery group had unknown prognoses. One patient had a recurrence with pelvic metastasis in the suboptimal surgery group. Suboptimal surgery was achieved in one woman in the vulvar cancer group with unknown prognosis.

Sixteen cases of endometrial cancer that had been treated by optimal and suboptimal surgeries were referred to a gynecologic oncology service. Optimal surgery was achieved in seven women (43.7%) and nine women (56.2%) had suboptimal surgery [5]. Prognoses of endometrial cancer patients were as follows: four cases in the optimal surgery group and seven cases in the suboptimal surgery group were unknown. One patient died 11 days after surgery due to sepsis in the optimal surgery group, one patient died at home, and the other patient had a recurrence with paraortic lymph node involvement, ascites and omental thickening in the suboptimal surgery group.

Reasons for suboptimal surgery in gynecologic cancer patients were as follows:

– Gynecologic cancer management requires close cooperation between the gynecologic oncologist, radiotherapist, medical oncologist and pathologist. These suboptimal cases were managed with lack of this cooperation.

– The idea of retaining all responsibility of cancer patients with a gynecologist or obstetrician has proven invaluable. These suboptimal cancer patients were operated on by a single physician.

– Many centers in the world recognize the need to develop gynecologic oncology as a subspeciality within the larger speciality of obstetrics and gynecology. The patients in the included studies were operated on without a gynecological oncologist.

– The United Nations have 191 member countries worldwide [7]. To the best of our knowledge gynecologic cancer operations are not carried out properly (except in developed countries) in most of the member countries (consequences of inadvertent, suboptimal primary surgery in carcinoma of the uterine cervix [3-5].

– Poverty is much more complex than simply income deprivation. Poverty entails also lack of education and lack of healthcare systems. Referred patients to our clinic lacked basic school education (98.6%) (except case no. 2).

– Our clinic planned a multidisciplinary approach (second operation to complete suboptimal surgeries, radiotherapy, chemotherapy, etc.) in suboptimal surgery patients who underwent gynecologic surgeries, but we were not successful because the unknown cases of all genital cancers were missed during follow-up and we could not reach them with with their phone or address information because the information was wrong or had changed.

Based on these unsatisfactory findings and undesired results, we have reached the conclusion that:

– It is imperative that gynecologists and other primary care providers give a full and frank explanation to gynecologic cancer patients *(even if they are uneducated)* about their illness, surgical procedure and medical therapy plans pre- and postoperatively.

– Phone numbers and address information of gynecologic cancer patients are very important for follow-up visits after surgery. Thus it is imperative that patient information is verified.

– If a gynecologist has no experience or expertise about gynecological cancer operations, he or she must consider the possible harm that any surgical intervention might do, as the latin phrase means *"primum non nocere",* and he or she should refer the patient to a gynecological oncology center for intervention.

– Optimal surgical gynecological surgeries can only be performed correctly when education becomes available throughout the world. Thus postgraduate fellowship programs need to be urgently considered to extend general gynecologists' surgical experience and expertise in developing and undeveloped countries. Recognition of the need for subspecialist units will improve the multidisciplinary approach to gynecological cancer patients. A well-trained gynecological oncologist will then be able to integrate with surgical and oncological colleagues to provide the highest treatment standards for patients.

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