An analysis of different approaches to ovarian cysts in Italy

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Summary

The management of pelvic masses represent a rising problem due to the need to obtain an early diagnosis and treatment of ovarian cancers.

Materials and Methods: In order to evaluate the clinical and surgical approach to ovarian cysts in Italy, we sent a multiple choice questionnaire to 214 members of the Italian Society of Gynecologic Oncology (SIOG) and to 230 members of the Italian Society of Gynecologic Endoscopy (SEGi). Ninety-six resulted evaluable.

Results: Transabdominal and transvaginal ultrasound associated with CA125 determination represent the basis for the diagnosis, even if there is no univocal agreement on the ultrasound aspects that may define an ovarian cyst as doubtful. If an ovarian cyst, classified as suspicious, has been diagnosed in a postmenopausal woman, a wide range of therapeutic options have been reported: laparotomic hysterectomy and bilateral salpingo-oophorectomy represent the treatment of choice for 49% of SIOG members, whereas laparoscopic bilateral (45%) or monolateral (39%) salpingo-oophorectomy represents the standard for SEGi members. Ultrasound criteria to distinguish among benign or probably malignant or doubtful ovarian cysts, the treatment of an ovarian cyst during pregnancy, and the management of an unexpected intraoperative diagnosis of borderline ovarian neoplasia are discussed on the basis of answers received by SIOG and SEGi members.

Key words: Pelvic mass; Ultrasounds; Markers; Therapy; Laparoscopy.

Introduction

The management of pelvic masses represents a rising problem due to the need to obtain an early diagnosis of ovarian cysts. A combination of transvaginal ultrasound (US) and serum CA125 determination permit a more accurate preoperative diagnosis of ovarian cysts, allowing a better selection in the decision making process [1, 2]. Fine-needle aspiration was widely performed in the past in order to differentiate between benign and malignant ovarian cysts; however there is no agreement on this procedure, considering the risk of malignant cell spread into the pelvis and the low sensibility of the technique [3, 4].

On the other hand, in the last ten years laparoscopic procedures have permitted a less invasive and more conservative approach to pelvic masses, thus representing for many cases the technique of choice not only for treatment but also to perform a differential diagnosis [5-8].

Nevertheless, many questions are still open, such as the clinical set-up to obtain the right diagnosis, an ultrasound scoring system to differentiate among benign, suspicious and probably malignant ovarian cysts [9], choice of treatment in pre- and postmenopausal women, management of pelvic masses in pregnancy and management of persistent cysts in the elderly [10]. Moreover, the great recourse to laparoscopy even in cases of clinically suspicious cysts, has determined some queries regarding the risk of spilliage in cases of malignant or borderline ovarian cysts.

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Material and Method

In order to evaluate the clinical approach and the treatment of choice of ovarian cysts in Italy, we sent a multiple-choice questionnaire to 444 Italian Gynecologists: 214 to all the members of the Italian Society of Gynecologic Oncology (SIOG) and 230 to all the members of the Italian Society of Gynecologic Endoscopy (SEGi). The first part of the questionnaire was focused on clinical approach, with specific questions on the role of plasmatic markers, US aspects of benign, suspicious or probably malignant cysts, and the role of fine-needle aspiration.

The second part regarded the treatment of choice of different types of cysts in pre- or postmenopause and the role of frozen section.

In the third part, some particular clinical and surgical conditions were hypothesized such as an unexpected diagnosis of borderline or malignant ovarian neoplasia, a persistent ovarian cyst in postmenopause and a suspicious ovarian mass during pregnancy.

Results

Ninety-six questionnaires (21.6%) resulted evaluable for this study; this number may be considered statistically representative of the Italian situation because 48% of all responding colleagues stated that the treat 50-100 cases of ovarian cysts per year and 42% of the SIOG responding members treat at least 20 cases/year of malignant ovarian cancer. All responding colleagues stated they work in gynecologic departments where an experienced laparoscopist and/or a gynecologic oncology pool exsits, so that correct treatment not only of benign pathology but also of malignant ovarian cancers is guaranteed.

Role of gynecologic exam

For the members of both the societies, the predictive value of a gynecologic exam was very low: less than 30% for 55% of the Italian Society of Gynecologic Oncology members, and 64% for the Italian Society of Gynecologic Endoscopy members.

Diagnostic approach

Globally considering the answers, transvaginal US (96.9%), CA125 serum determination (91.7%) and transabdominal US (58.3%) are widely diffused, whereas Doppler US, computerized tomography (CT) and magnetic nuclear resonance (MNR) are used only in selected cases. In particular, the CA125 value is important only if it is correlated to the US aspect for more than 75% of the members of both societies.

US aspect of probably benign ovarian cysts

There is general agreement on the fact that absence of echos, septa and vegetations and the presence of a thin wall are distinctive of probably benign ovarian cysts. The volume of less than 5 cm was considered important by 25% of the SEGi and by 17% of the SIOG members. Only seven out 87 (8.0%) responding colleagues stated they follow the Sassone [9] US score.

US aspects of suspicious ovarian cysts

The presence of coarse septa or vegetations, number of septa, coarse wall and homogeneous structure are the characteristics most frequently reported by the members of both societies. However, if we consider the answers separately, a wide range of opinions emerge: thin septa is representative of a suspicious cyst for 37% of the SIOG members but only for 5% of the SEGi members. On the contrary, coarse septa define a suspicious cyst for 35% of the SIOG members but for 70% of the SEGi members. Similarly, vegetations define a suspicious cyst for 19% of the SIOG members but for 45% of the SEGi members. A diameter more than 5 cm is considered suspicious by 9% and 18%, respectively of the SIOG and the SEGi responding members.

US aspects of probably malignant cysts

There is general agreement between the SIOG and the SEGi responding members in defining probably malignant ovarian cysts: vegetation (64%), coarse septa (63%), presence of solid areas (37%), irregular walls (30%) and pathologic Doppler US (28%) are the aspects more frequently reported to characterize a probably malignant ovarian cyst.

Fine-needle aspiration

Forty-five percent and 61%, respectively, of the SIOG and the SEGi members stated they do not perform fine-needle aspiration of an ovarian cyst, whereas this technique is reserved for particular conditions for 45% of responding colleagues globally considered.

Probably benign ovarian cyst treatment

Laparoscopic cystectomy is the surgical treatment of choice in premenopause. This is performed by 67% of the SIOG and the SEGi members globally considered, even if medical therapy (53%) and follow-up only (45%) are also widely performed.

Monolateral laparoscopic salpingo-oophorectomy is the treatment of choice in postmenopausal women for 49% of responding centers (SIOG: 37%; SEGi: 63%). No treatment at all (31%), laparoscopic bilateral salpingo-oophorectomy (25%) and laparotomic hysterectomy associated with bilateral salpingo-oophorectomy (12%) are the other treatment options most frequently reported.

Suspicious ovarian cyst treatment

Laparoscopic cystectomy is the leading treatment of a suspicious ovarian cyst in premenopause (53%) for both the SIOG and SEGi responding members. Laparoscopic monolateral salpingo-oophorectomy is performed by 22% and 48% of SIOG and SEGi members, respectively (Table 1).

Table 1. — *Clinically suspicious ovarian cysts: treatment in premenopause.*

	Italian Society of Gynecologic Oncology		Italian Society of Gynecologic Endoscopy	
	No.	(%)	No.	(%)
LPS cystectomy	22/50	(44)	29/46	(63)
LPT cystectomy	11/50	(22)	5/46	(11)
LPS salpingo-oophorectomy	11/50	(22)	22/46	(48)
LPT salpingo-oophorectomy	11/50	(22)	7/46	(15)
FNA	4/50	(8)	1/46	(2)

LPS: laparoscopic; LPT: laparotomic; FNA: fine-needle aspiration.

If an ovarian cyst, classified as suspicious in the clinical set-up, has been diagnosed in a postmenopausal woman, a wide range of therapeutic options are reported: laparotomic hysterectomy and bilateral salpingo-oophorectomy represent the treatment of choice for the 49% of the SIOG members, whereas laparoscopic bilateral (45%) or monolateral (39%) salpingo-oophorectomy represents the standard for SEGi members (Table 2).

Table 2. — *Clinically suspicious ovarian cyst: treatment in postmenopause.*

	Italian Society of Gynecologic Oncology		Italian Society of Gynecologic Endoscopy	
	No.	(%)	No.	(%)
LPT hysterectomy, bilateral salpingo-oophorectomy	24/49	(49)	8/46	(17)
LPS monolateral salpingo-oophorectomy	12/49	(24)	18/46	(39)
LPT bilateral salpingo-oophorectomy	11/49	(22)	2/46	(4)
LPS bilateral salpingo-oophorectomy	9/49	(18)	21/46	(46)
LPT monolateral salpingo-oophorectomy	6/49	(12)	3/46	(7)

LPT: laparotomic; LPS: laparoscopic.

Probably malignant ovarian cyst treatment

Laparotomic monolateral salpingo-oophorectomy is the treatment of choice for both the SIOG (58%) and the SEGi (58%) members if a probably malignant ovarian cyst is diagnosed in premenopause. Laparotomic cystectomy (SIOG 30%; SEGi 11%), and laparoscopic salpingo-oophorectomy (SIOG 20%; SEGi 38%) are the other options most frequently reported (Table 3).

Table 3. — *Probably malignant ovarian cysts: treatment in premenopause.*

	Italian Society of Gynecologic Oncology		Italian Society of Gynecologic Endoscopy	
	No.	(%)	No.	(%)
LPT salpingo-oophorectomy	29/50	(58)	26/45	(58)
LPT cystectomy	15/50	(30)	5/45	(11)
LPS salpingo-oophorectomy	10/50	(20)	17/45	(38)
LPS cystectomy	0/50	(0)	3/45	(7)
FNA	1/50	(2)	0/50	(0)

LPT: laparotomic; LPS: laparoscopic; FNA: fine-needle aspiration.

Laparotomic hysterectomy and bilateral salpingo-oophorectomy is the treatment of choice for members of both societies if a probably malignant ovarian cyst is diagnosed in postmenopause (SIOG 65%, SEGi 57%) (Table 4).

Table 4. — *Probably malignant ovarian cysts: treatment in postmenopause.*

	Italian Society of Gynecologic Oncology		Italian Society of Gynecologic Endoscopy	
	No.	(%)	No.	(%)
LPT hysterectomy, bilateral salpingo-oophorectomy	32/49	(65)	25/44	(57)
LPT monolateral salpingo-oophorectomy	10/49	(20)	4/44	(9)
LPT bilateral salpingo-oophorectomy	7/49	(14)	4/44	(9)
LPS bilateral salpingo-oophorectomy	5/49	(10)	7/44	(16)
FNA	1/49	(2)	0/44	(0)
LPS hysterectomy, bilateral salpingo-oophorectomy	0/49	(0)	6/44	(14)

LPT: laparotomic; LPS: laparoscopic; FNA: fine-needle aspiration.

Laparoscopy is never performed in such a case by 62% of the SIOG members, whereas 75% of the SEGi members consider that laparoscopy may play a role in confirming the diagnosis or establishing the operability of a probably malignant cyst, also in postmenopausal women.

Role of frozen section

Frozen section is routinely performed by 44% of the SIOG and by 22% of the SEGi responding members, whereas it is reserved to selected cases for the majority of members of both societies.

Unexpected intraoperative diagnosis of borderline or malignant ovarian tumors

If at frozen section a borderline ovarian tumor is diagnosed in a premenopausal patient 54% of the SIOG but only 24% of the SEGi members stated that they perform complete surgical staging and treatment at once. On the contrary, the majority of the SIOG (87%) and the SEGi (82%) members confirmed that they perform definitive surgery if the patient is in postmenopause. A similar situation is for cases of intraoperative diagnoses of malignant ovarian cancer.

Clinically benign but persistent ovarian cysts in postmenopuase

There was no agreement between the SIOG and the SEGi members regarding the clinical management of a persistent probably benign cyst in postmenopause: follow-up (36%), laparoscopy-monolateral (26%) or bilateral (26%) salpingo-oophorectomy are the treatment of choice for SIOG members. On the contrary, monolateral laparoscopic salpingo-oophorectomy is the leading treatment for 61% of the SEGi members (Table 5).

Table 5. — *Approach to a clinically benign but persistent ovarian cysts in postmenopause.*

	Italian Society of Gynecologic Oncology		Italian Society of Gynecologic Endoscopy	
	No.	(%)	No.	(%)
Follow-up	18/50	(36)	10/46	(22)
LPS monolateral salpingo-oophorectomy	13/50	(26)	28/46	(61)
LPS bilateral salpingo-oophorectomy	13/50	(26)	15/46	(33)
FNA	6/50	(12)	3/46	(7)
LPT bilateral salpingo-oophorectomy	6/50	(12)	–	–
LPT hysterectomy, bilateral salpingo-oophorectomy	5/50	(10)	–	–
LPS hysterectomy, bilateral salpingo-oophorectomy	–	–	1/46	(2)

LPT: laparotomic; LPS: laparoscopic; FNA: fine-needle aspiration.

Suspicious ovarian cyst diagnosed during pregnancy

If a suspicious ovarian cyst is diagnosed during pregnancy, follow-up is proposed by 31% and 34% of the SIOG and the SEGi members, respectively. If surgery is considered necessary, the laparotomic approach is preferred by both groups: laparotomic cystectomy (SIOG 41%, SEGi 32%) or salpingo-oophorectomy (SIOG 22%, SEGi 24%) is the treatment of choice.

Discussion

Our data confirm that the combination of US examination and CA 125 serum determination are the cornerstones for the differential diagnosis of pelvic masses. A general agreement exists between the SIOG and the SEGi members concerning the characteristics defining a probably benign or malignant ovarian cyst. On the contrary, wide different opinions exist not only inside each group but also between the two groups concerning the management of cysts in respect to US characteristics. Moreover, few centers follow one of the US scoring systems proposed in the literature such as the Sassone score [9].

Fine-needle aspiration is a diagnostic procedure refused by half of the globally considered centers in agreement with the data from the recent literaure: many authors have stressed the risk of malignant cell spread into the pelvis and the low sensibility of the technique [3, 4].

Our data confirm the tendency to a more conservative surgery both in pre- and postmenopausal women for a clinically benign ovarian cyst, and in this condition, laparoscopy seems to play an important role in reducing the biological cost and the hospital stay.

The laparoscopic approach to ovarian masses is a technique widely accepted by the responding members of both the societies, at least in case of probably benign or suspicious cysts in premenopausal women. On the contrary, the answers of the two groups are clearly different in cases of a suspicious cyst in postmenopause: laparotomic demolitive surgery is preferred by the SIOG members, but laparoscopic mono or bilateral salpingo-oophorectomy is preferred by the SEGi members, respectively, as the treatment of choice. A possible explanation of this different attitude between the two groups may be related to the greater number of cancer patients followed by the SIOG members.

It is important to stress the different approaches to probably benign but persistent ovarian cysts in postmenopause: follow-up for the SIOG members versus laparoscopic salpingo-oophorectomy for the SEGi members.

Conclusions

From the data on the different approaches to ovarian cysts in Italy we may conclude that two provocative open questions may be raised: is laparoscopy a diagnostic procedure? Would a considerable recourse to a standardized US score help in the decision making?

In addition, because of the rising actuality of the problem, we may argue there is the necessity of establishing guidelines for the diagnosis and treatment approaches. It is important that the Scientific Committees of both the Italian Society of Gynecologic Oncology and the Italian Society of Gynecologic Endoscopy organize a collaborative network to give uniform answers to open questions: what is a suspicious cyst? How should suspicious and probably malignant cysts in pre- and postmenopause women be treated? What is the best treatment or how long should the follow-up be of persistent cysts in postmenopause? Is laparoscopy an adequate technique during pregnancy?

Last, but not least, we thank all the colleagues who answered our questionnaire and all others who will answer the next!

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