

# Ovarian cysts in the postmenopause: is a conservative treatment feasible?

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*Summary:* The incidence of epithelial ovarian cancer reaches a peak between the ages of 50 and 59 years. Therefore any ovarian enlargement in the postmenopause has been treated up to now with prompt surgical exploration. Recently the reliability of ultrasound has allowed a conservative management of small unilocular ovarian cysts even in the postmenopause. The Authors report here their experience on benign masses in postmenopausal women, and discuss the feasibility of ultrasound-guided aspiration of small, anechoic adnexal cysts.

*Key words:* Ovarian cysts; Postmenopause; Conservative treatment.

## INTRODUCTION

The incidence of epithelial ovarian cancer, the most frequent and aggressive malignant tumor of the ovary, increases with age and reaches a peak between the ages of 50 and 59 years (<sup>1</sup>).

Therefore, a pelvic mass found upon examination in a postmenopausal woman promptly requires further investigation. Ovaries of normal size in a premenopausal woman manifest a pathological finding in a patient 3 to 5 years after the clinical menopause.

In 1971 Barber and Graber (<sup>2</sup>) defined a new syndrome, the Post Menopausal Palpable Ovary Syndrome (PMPO), as a means of early ovarian malignancy detection. They found at laparotomy an ova-

rian carcinoma in 3 patients with postmenopausal palpable ovary. They recommend that any patient with postmenopausal palpable ovary, even if asymptomatic, undergo total hysterectomy, bilateral oophorectomy and en bloc removal of the operating specimen. They stated that "any postmenopausal adnexal mass should be considered as a cancer until proved otherwise".

Since then, the aggressive approach advocated by Barber and Graber toward any enlargement in a postmenopausal woman has been widely accepted (<sup>3</sup>).

Recently, the increased use of transabdominal and transvaginal ultrasound, and also CT and NMR, has introduced into clinical practice a variant of the PMPO: the Minimally Enlarged Ovary, that is the detection by means of pelvic imaging of an abnormal ovary in size or morphology in a postmenopausal woman with normal pelvic examination (<sup>1</sup>).

Correlation between sonographic patterns of pelvic masses and malignancy rate has been studied by many investigators.

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Andolf and Jörgensen<sup>(4)</sup> studied 152 patients over 50 years of age with cystic lesions of the ovary. No malignancies were detected at laparotomy among those with totally anechoic cysts less than 5 cm in diameter; in contrast, 10% of the anechoic cysts larger than 5 cm in diameter were malignant. In the group of cysts with few septa, cancer was found in 10% to 15.6% depending on size. Cancer rate reached 44.4% in the multicystic lesions.

Small unilocular cysts proved at low-risk for malignancy even in postmenopausal women: no malignancies were associated with small unilocular cysts, according to the large majority of Authors<sup>(4-11)</sup>.

However some Authors dissent: in the series of Luxman<sup>(5)</sup> malignancy rate in the group of simple cysts less than 5 cm of size is 6%; Hall<sup>(6)</sup> detected 1 cancer out of 10 simple cysts (10%); Rulin and Preston<sup>(1)</sup> found 1 malignancy out of 32 ovarian cystic lesions, but not all of them were completely anechoic.

Some Authors, nevertheless, have advocated a conservative management of completely anechoic, simple ovarian cysts in postmenopause. Conservative approaches include: either a sonographic follow-up, or ultrasound-guided or laparoscopic aspiration of the cyst.

Only initial series have hitherto been published with both methods.

The purposes of the present study have been to evaluate frequency of benign ovarian lesions in postmenopause, in comparison with malignant lesions, and to assess the role of the conservative management of anechoic, uniloculated adnexal cysts in postmenopausal women.

## MATERIALS AND METHODS

Charts of all the postmenopausal women over 50, admitted to our Department between January 1981 and May 1992 with a diagnosis of either mono- or bilateral pelvic mass were reviewed. Patients with lesions that resulted benign after histological or cytological testing were included

in our study. Patients were classified as postmenopausal if 1 year had elapsed since spontaneous cessation of the menses. The survey isolated 64 pelvic lesions in 52 patients.

All patients underwent gynecologic examination, pelvic ultrasound and any other exam indicated for preoperative evaluation.

The ages of the patients ranged from 50 to 79 years (mean 57.8). Sixty-seven point three percent of patients were included in the group of age 50 to 59 years; 21% 60 to 69 years of age; 11% were over 70.

Forty-two patients underwent surgery, the remaining 10 underwent sonographically guided needle aspiration of the cyst.

## RESULTS

The sonographic patterns of the lesions included in the study are shown in figure 1: 59.6% of the lesions was an anechoic cyst with thin walls; 21.2% had a complex sonographic pattern; in 15.3% there were septa and/or intraluminal papillae; 3.4% were purely solid.

Figure 2 indicates the different therapeutic approaches followed: in 21.1% of the patients, a conservative approach was chosen.

In 10 patients, presenting a monolateral, uniloculate, totally anechoic ovarian cyst, ranging in size between 3.5 and 5 cm of diameter, a transabdominal ultrasound-guided needle aspiration was performed, until complete disappearance of the cyst was obtained (Fig. 3). Cytology

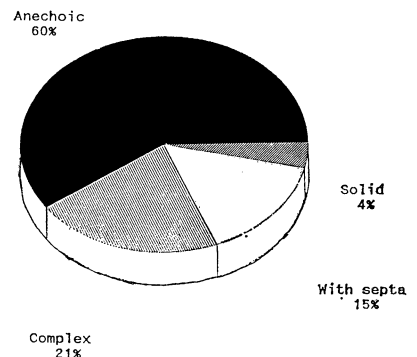


Fig. 1. — Sonographic aspect of 52 postmenopausal adnexal masses.

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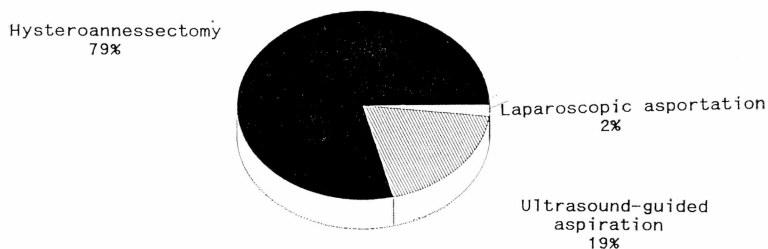


Fig. 2. — Therapeutic approach in 52 postmenopausal adnexal masses.

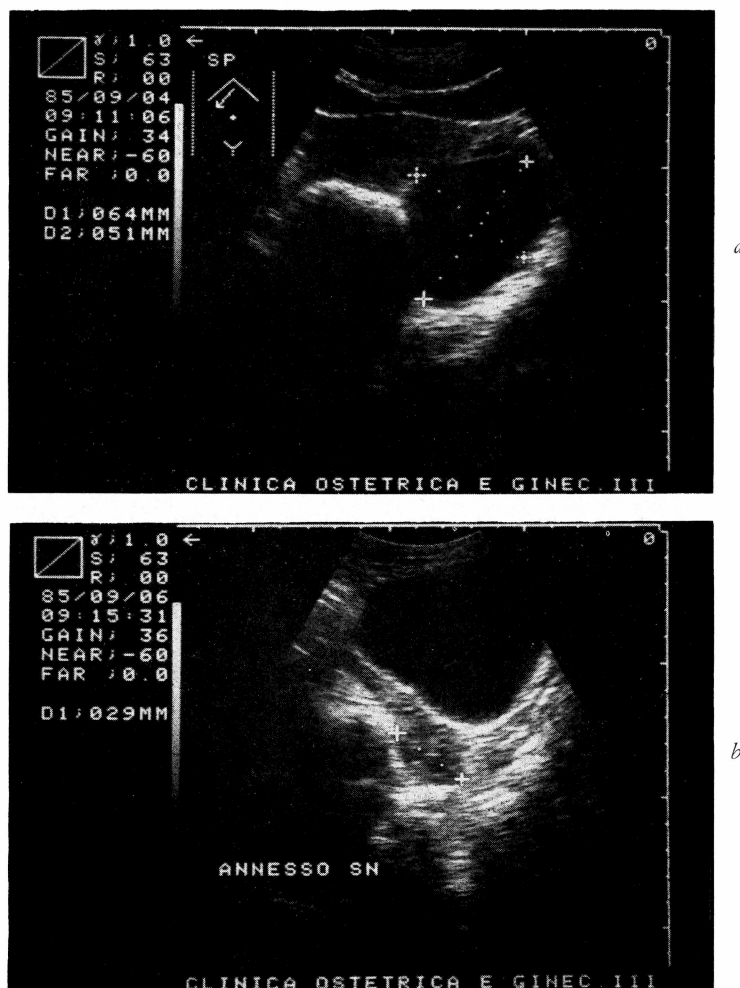


Fig. 3. — Transabdominal ultrasonography before (a) and after (b) ultrasound guided aspiration.

Talbe 1. — *Benign adnexal masses in the post-menopause (1981-1992): Histology.*

Follicular or luteal cyst	3
Simple serous cyst	13
Serous cystoadenoma	9
Mucinous cystoadenoma	7
Papillary serous cystoadenoma	5
Serous cystic fibroadenoma	4
Endometriotic cyst	3
Fibroma	1
Fibromathecma	3
Cystic teratoma	2
Paraovarian cyst	2
Tot.	50

of the aspiration fluid was in all cases negative. In three cases the lesion relapsed. A second aspiration was performed, and therapy with GnRH-agonists was prescribed for 6 months. No patient at present, after a maximal follow up of 2 years, shows any sign or symptom of malignancy.

Thirty patients underwent laparotomic total hysterectomy and bilateral oophorectomy, in accordance to the current therapeutic approach. In five of those, due

to suspicion of malignancy, omentectomy, random peritoneal biopsies and cytologic examination of aspirating fluid were performed, but all proved negative. Histopathology revealed them to be: two mucinous cystomas, two papillary serous cystomas, one fibromathecma.

One patient underwent radical hysterectomy (Wertheim) because of a concomitant adenocarcinoma of the endometrium: the adnexal lesion was at histopathology a 70×80 simple cyst. One patient underwent colpohysterectomy with bilateral oophorectomy due to poor general conditions which contraindicated general anesthesia.

One patient underwent laparoscopic aspiration and asportation of the cyst. It was a parovarian cyst.

In the group of 42 patients who underwent surgery, we observed 54 ovarian lesions, whose histologic features are shown in Table 1.

Bilateral cystomas were detected in 4 patients (one serous, one papillary serous, two mucinous) (Fig. 4).

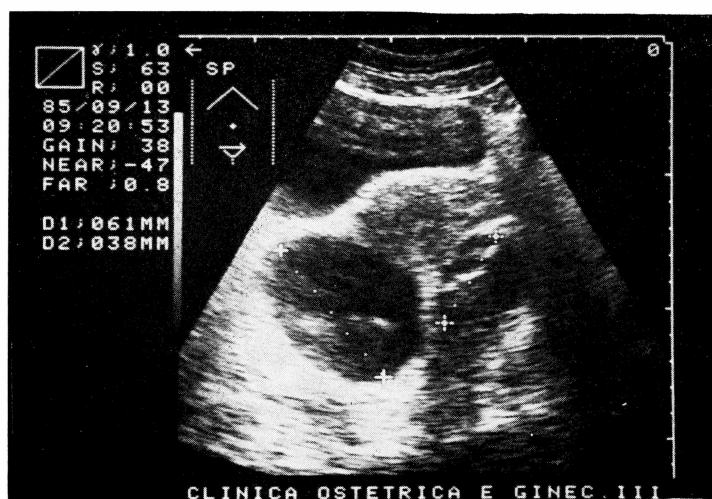


Fig. 4. — Bilateral ovarian cysts with thin septa and hypoechoic areas: bilateral serous cystoadenoma.

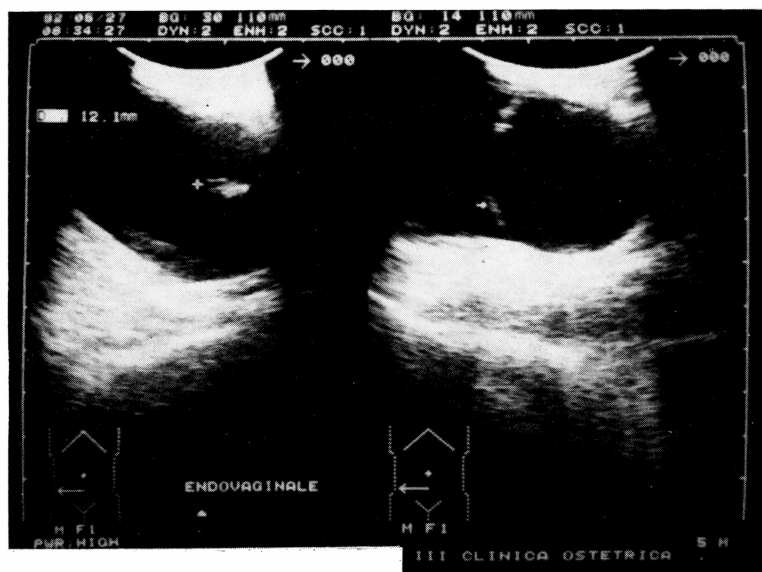


Fig. 5. — Adnexal cyst with solid areas and septa: papilliferous serous adenofibroma with calcifications.

Among non-neoplastic ovarian cysts there were 2 follicular cysts and one luteal cyst (6%).

Simple cysts were present in 13 patients (26%), parovarian cysts in two (4%), endometriotic cysts in 3 cases (6%).

Epithelial tumors included serous cystoadenomas (18%), papillary serous cystomas (10%) and mucinous cystomas (14%).

Two cystic teratomas were observed (4%) whereas among stromal cell tumors there were fibromas (2%), fibromathecomas (6%) and cystic fibroadenomas (8%) (Fig. 5).

Correlation between histopatologic type and size of the lesion are displayed in Table 2.

Among epithelial tumors, serous, papillary serous and mucinous cystoadenomas are present mostly in the size group 5 to 10 cm (66.7% and 60%), on the contrary endometriotic, follicular, simple and pa-

rovarian cysts are more frequent in the group less than 5 cm. Only four ovarian cysts are larger than 10 cm: one simple cyst, a mucinous and a papillary serous cystoadenomas and one cystic teratoma.

Table 2. — Correlation between histology and size in adnexal masses in postmenopausal women.

	Size		
	< 5 cm	5-10 cm	> 10 cm
Follicular/luteal cyst	2	1	—
Simple serous cyst	8	4	1
Serous cystadenoma	3	6	—
Mucinous cystadenoma	1	4	1
Papillary serous cystadenoma	1	3	1
Serous cystic fibroadenoma	2	2	—
Endometriotic cyst	2	1	—
Fibroma	—	1	—
Fibromathecoma	1	2	—
Cystic teratoma	—	1	1
Paraovarian cyst	2	—	—

Ultrasonographic predictability of size of the lesion was 89% (variability + or - 2 cm), consistent with previous data from Rulin<sup>(1)</sup>, whereas clinical accuracy of the mass was 78%.

In the same period of time in our Department 50 ovarian carcinomas were observed and operated in postmenopausal women over 50 years of age. None of them had a completely anechoic sonographic pattern.

## DISCUSSION

In our 12-year study, 52 cases of adnexal mass in that proved to be benign either at histopathology or cytology were observed in postmenopausal women.

In particular all purely anechoic uniloculated cysts proved to be benign.

Ultrasound reliability in differentiating benign from malignant lesions allows a conservative management and therefore of surgery in some cases of adnexal cyst in postmenopause.

Supporting evidence was produced in 1988 by Andolf and Jørgensen<sup>(7)</sup> who were first to publish the results of a prospective study on 30 postmenopausal women with sonographically detected simple ovarian cysts, with a thin wall and not more than two thin septa. Only 7 cysts were palpable upon clinical examination. Fifteen patients underwent laparotomic surgery and no malignant tumor was found. The remaining 15 were managed expectantly, by a strict ultrasound and clinical follow-up. Within two years, all cysts but two had disappeared; the remaining two were completely unaltered, and the patients showed no signs of malignancy.

The study conducted by Goldstein and Coll.<sup>(8)</sup> presented 16 patients with purely anechoic ovarian cysts followed up with clinical examination and ultrasound every 3-6 months. Only two patients underwent

an explorative laparotomy due to increased size, and pain: in one case they found an adenofibroma, in the other a degenerating myoma.

Wolf<sup>(9)</sup> performed serial sonographic surveillance in 22 postmenopausal patients with ultrasound-detected simple adnexal cysts. He found no statistical relationship between occurrence of ovarian cysts and length of time since onset of menopause, or type of hormone replacement treatment. The Authors report that some cysts seen initially disappeared during the follow-up, whereas cysts were found in previously normal patients.

We recommend ultrasound-guided needle aspiration of simple adnexal cysts. This simple, painless outpatient procedure represents, for highly selected cases, a feasible alternative to laparotomy.

Trio 1992 recommended this method even in postmenopause. De Crespigny<sup>(12)</sup> aspirated simple cysts less than 10 cm in diameter in 88 patients: 9 were over 50 years of age. All proved to be benign upon cytology of aspiration fluid, and negative at sonographic follow-up.

Ultrasound-guided cysts puncture offers some advantage if compared to expectant management by ultrasound follow-up: it allows cytologic examination of aspiration fluid, and relief of possible complaints.

In all studies, cyst recurrences required prompt exploratory laparotomy.

In case of ultrasound-guided aspiration, the leakage of intracystic fluid at the moment of needle withdrawal is very small, due to collapsing of tissues. We also believe that, even if spillage from a malignant cyst occurred, it would not worsen patient prognosis, as long as laparotomic operation is not postponed. It is our opinion, therefore, that all patients should undergo the first sonographic follow-up scan 1 month after cyst puncture, in order to allow prompt detection of any sign of malignancy.

The Authors emphasize the importance of strict sonographic screening criteria in proper patient selection to reduce to almost 0 the occurrence of aspiration of a concealed cancer. Doubtful cases can require serum Ca 125 and/or Color Doppler evaluation of ovarian artery to rule out malignancy. It is possible that in some studies which demonstrated the presence of carcinomas among simple ovarian cysts less than 5 cm in size, the sonographic pattern of the lesions had not been correctly studied or that the indication to conservative management had not been given (septa intracystic papillae...) (<sup>1, 5, 6</sup>).

The echographer plays a very important role also in the follow-up of patients who underwent ultrasound-guided aspiration. Conservative treatment should be followed by a very strict series of controls, not only to detect promptly a possible relapse of the cyst, but also to discover suspicious sonographic patterns which require immediate laparotomy. In all published series available to us, relapsing ovarian cysts in postmenopause warrant prompt surgical exploration (<sup>12</sup>). We believe, on the contrary that if the relapsing cyst is identical to the first one, a second aspiration should be performed.

This difference in the therapeutic approach to relapsing cysts may lie in the age distribution of our patients, mostly between 50 and 59 years, and many not exceeding 3 years since onset of menopause. In this phase, gonadotropins can reach high serum levels, and can contribute to the development, and possibly to the recurrence of "functional" cysts (follicular or luteal).

Therefore the second aspiration was followed by medical therapy with LH-RH analogues, which, after an initial stimulation, inhibit gonadotropin secretion.

The meaning of small simple adnexal cysts and their natural history remain to be explained. After cessation of the hor-

monal activity, ovaries should not be stimulated to produce cysts of the functional type any more.

Andolf (<sup>13</sup>) proposed that functional cysts, developed during the fertile period, may slowly disappear in time. This hypothesis is backed also by the finding of luteal and follicular cysts in postmenopausal patients. It is believed that they slowly decrease in size during the so called postmenopausal "hormonal silence" period. They are detected in postmenopause usually by chance, at an occasional gynecologic or ultrasound examination.

Probably the same mechanism is also responsible for endometriotic cysts and cystic teratomas; they have probably arisen in the premenopause, and are detected in postmenopause.

In our study simple inclusion cysts account for 26% of all benign adnexal masses in postmenopause. According to Wolf (<sup>9</sup>) these cysts may be due to the aging of the ovary, which wrinkles, enfolding fragments of coelomatic epithelium. This mechanism can explain the intense "cystogenetic" activity of the postmenopausal ovary, demonstrated at sonographic follow-up in patients even in advanced postmenopause.

Moreover, part of the cystic ultrasound-detected images is due to artifacts: minimal adhesions can mimic a small anechoic cyst. Often patients who presented such a pelvic ultrasound, showed, less than 36 hours later, a normal pelvis at surgery (<sup>14</sup>).

From the above data we conclude that the conventional treatment advocated by Barber and Graber is not indicated in all cases of adnexal mass in postmenopause, having as its major pitfall unnecessary surgery in healthy women with normal, atrophic ovaries. In highly selected cases of ovarian cysts in postmenopause (purely anechoic, monolateral ovarian cyst smaller than 5 cm of diameter) it is possible to adopt a conservative approach.

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