

# CONSERVATIVE SURGERY OF THE OVARY

F. PEPE - M. PANELLA (\*) - G. PEPE (\*\*) - P. PANELLA

Institute of Obstetrics, Gynecology and Fetal Medicine Unit - Catania University (Italy)  
(Director: Prof. I. Panella)

(\*) 2nd Obstetric and Gynecological Pathology Clinic - Catania University (Italy)  
(Director: Prof. S. Di Leo)

(\*\*) 1st Clinic of Emergency Surgery - Catania University (Italy)  
(Director: Prof. E. Cirino)

*Summary:* 113 patients aged between 16 and 41 underwent conservative surgery of the ovary between 1965 and 1984 in the First Clinic of Obstetrics and Gynecology, Catania University Medical School, Catania, Italy. The frequency of conservative surgery of the ovary was 0.55% of total gynecological admissions. Indications for surgery were sterility due to postinflammatory adherence in 14.15% (16 cases), in 34.51% (39 cases) ovarian polycystosis after failure of medical therapy with ovulation inducers, in 46.92% (53 cases) pelvic tumor, and in 4.42% (5 cases) hemorrhage of the corpus luteum (4 cases) or ovarian pregnancy (1 case). In 53 cases of enucleation of ovarian tumor the most frequent pathology was serous cyst (41.50%; 22 cases), followed by dermoid cysts (33.96%; 18 cases), cyst caused by endometriosis (18.86%; 10 cases). Luteinic cysts were more rare (3.77%; 2 cases), and in only 1 case was there ovarian cystadenoma (1.88%). Postoperative course was febrile in 7.96% (9 cases) of patients. There were no cases of mortality.

*Key words:* conservative surgery, ovary, tumors.

The most frequent indications for conservative surgery of the ovary are adhesions, enucleation of ovarian cysts, and wedge resection in patients with ovarian polycystosis after unsuccessful medical therapy.

This surgery is usually elective, although sometimes performed in emergency in cases of ovarian pregnancy or after hemorrhage of the corpus luteum.

The aim of this study is to report the indications for conservative surgery of the ovary in patients admitted to the First Clinic of Obstetrics and Gynecology, Catania University Medical School, Catania, Italy, between 1965 and 1984.

## CLINICAL CASES

113 patients aged between 16 and 41 (table 1) underwent conservative surgery of the ovary between 1965 and 1984 in this Unit. Patients who underwent ovarian biopsy or oocyte aspiration are not included in this study. The frequency of conservative surgery of the ovary was 0.55% of total gynecological admissions. Indications for surgery were sterility due to post-

inflammatory adhesions (peritonitis, pelvic peritonitis, adnexitis) in 14.15% (16 cases), in 34.51% (39 cases) ovarian polycystosis after failure of medical therapy with ovulation inducers, in 46.92% (53 cases) pelvic tumor, and in 4.42% (5 cases) hemorrhage of the corpus luteum (4 cases) or ovarian pregnancy (1 case).

In 13 cases lysis of adnexal adhesions was associated with tuboplasty for concomittant occlusion; in cases of ovarian polycystosis monolateral (18 cases) and bilateral (17 cases) ovarian wedge resection was done (table 1).

In 53 cases of enucleation of ovarian tumor the most frequent pathology was serous cyst (41.50%; 22 cases), followed by dermoid cysts (33.96%; 18 cases), and cysts caused by endometriosis (18.86%; 10 cases). Luteinic cysts were rare (3.77%; 2 cases), and in only 1 case was there ovarian cystadenoma (1.88%). Table 2 reports the average age of patients with ovarian tumor (range 16-39 years).

Partial resection of the ovary was carried out in 5 cases, of which 4 were for hemorrhage of the corpus luteum and 1 for ovarian pregnancy. On admission these patients presented with symptoms of shock. Laparotomy was performed and hemostasis was easily obtained through partial ovarian resection.

Postoperative course was febrile in 7.96% (9 cases) of patients. There were no cases of mortality.

Table 1. — *Conservative surgery of the ovary and average age of patients (113 cases).*

	No. of cases	%	Average age
Partial resection of ovary	5	4.42	28.1 (21-30 years)
Ovariolysis	16	14.15	30 (21-36 years)
Enucleation of cysts	53	46.92	27.4 (17-36 years)
Ovarian wedge resection	39	34.51	30.6 (20-41 years)

Table 2. — *Anatomopathological diagnosis and patients' age in 53 cases of enucleation of ovarian tumors.*

	No. of cases	%	Average age
Simple serous cysts	22	41.50	26.33 (16-37 years)
Dermoid cysts	18	33.96	28.84 (17-39 years)
Cysts from endometriosis	10	18.86	28.4 (19-37 years)
Luteinic cysts	2	3.77	29 (28-30 years)
Pseudoserous cystadenoma	1	1.88	35 —

## DISCUSSION

In our case histories (113 cases) the most frequent indication for conservative surgery of the ovary was pelvic tumor, prevalently represented by serous, dermoid, and endometrial cysts. In these cases an accurate history and echography are of the utmost importance, and Nuclear Magnetic Resonance may be necessary. It is possible in a high number of cases to identify the nature of the tumor with a good margin of safety. Radiography of the pelvis may be useful in cases of dermoid cysts since calcification and tooth or bone remnants can be evidenced.

In cases of serous and dermoid cysts, we usually, when possible, perform enucleation. In cases of dermoid cysts if the contralateral ovary is macroscopically normal we do not perform explorative ovariectomy which some Authors feel is justifiable due to the high incidence of bilaterality which, in a study performed by us in 105 cases of dermoid cysts, was reported as 9.52% of cases<sup>(3)</sup>. In cases of enucleation of cysts caused by endometriosis of notable dimensions it is important

to avoid rupture of these cysts, laceration of surrounding organs, and danazol must be administered postoperatively.

When conservative surgery of the ovary is performed for tumor, frozen section must be done. In case of FIGO stage 1 A dysgerminoma or well-differentiated carcinoma in young patients with negative cytology and possibility of accurate follow-up conservative treatment is justifiable. In these cases 5 year survival rate is 74%, while in those treated with total hysterectomy and bilateral adnexectomy it is 78%<sup>(18)</sup>.

In one case partial resection of the ovary for ovarian pregnancy was performed and it was the only case treated in this manner among the five reported between 1965 and 1984 in this unit<sup>(3)</sup>. In these cases we usually avoid simple ovariectomy since tubal function is compromised by the ligation of the tubal vessels, and also to avoid recurrence. Rubin *et al.*<sup>(19)</sup> report a case diagnosed as ovarian pregnancy due to wide laceration of the ovarian parenchyma during the course of laparotomy, but subsequent histological

control showed it to be a hemorrhagic corpus luteum, while in reality pregnancy was tubal.

In patients with ovarian polycystosis we perform ovarian wedge resection only after failure of medical therapy. Most of the cases reported occurred in the first years of our case history (1965 to 1970) when ovulation inducers were not in use. The effectiveness of surgical therapy in these cases is still a subject of discussion since the fertility of the patient which is restored for one year after operation, is subsequently reduced by formation of adhesences (7.8% of cases according to Adashi)<sup>(2)</sup>. Johnson<sup>(7)</sup> reports a frequency of ovulation of 76.4% and of pregnancy of 41% in 569 patients with ovarian polycystosis treated with clomiphene citrate after ovarian wedge resection. On the other hand Buttran and Vaquero<sup>(11)</sup> reported one year after ovarian resection in 173 women with PCO ovulatory ovarian cycle in 42.6 cases while Weinstein and Polishuk reported this in 67% of cases<sup>(10)</sup>.

Adashi<sup>(2)</sup> reports that in 90 patients, after ovarian wedge resection, normalization of menstrual flux was achieved in 91.2% of cases, a persistent anovulation in 8.9%, conception in 47.8% of which 71% gave birth to living siblings, 21% with abortions (13%) or extrauterine pregnancy (8%). It thus seems that data in literature is not convincing for either of the two types of therapy, but it is always beneficial to perform surgical therapy only after failure of prolonged and well conducted medical therapy.

To prevent the formation of adhesences during laparotomy it is useful to administer 2000 mg of hydrocortisone acetate<sup>(4)</sup> which has anti-inflammatory action and inhibitory effects of fibroblast multiplication<sup>(9)</sup> and migration<sup>(10)</sup>; the administration of 250 ml of 32% Dextran 70 is also indicated due to fibrinolytic activity<sup>(6)</sup> and siliconizing effect upon damaged peritoneal tissue<sup>(8)</sup>. Ovarian suture

must be performed avoiding tension of the suture line, utilizing appropriate suture thread.

It is also important that the suturing be performed according to the proper technique of reconstruction of ovarian parenchyma after enucleation of the mass. We usually perform double suture of the ovarian parenchyma to avoid through and through suture since this type of suture leads to a higher incidence of postoperative adhesences<sup>(15)</sup>.

#### BIBLIOGRAPHY

- 1) Panella I.: Atti Congresso Società Italiana di Endocrinochirurgia, 1985, Monduzzi Editore, Bologna, 1985.
- 2) Adashi E. Y., Rock J. A., Guzick D., Wentz A. N., Jones G. S., Jones H. S.: *Fertil. Steril.*, 36, 320, 1981.
- 3) Pepe F., Panella M., Pepe G., Panella P., Pennisi F., Arikian S.: *Eur. J. Gyn. Oncol.*, 1986, in press.
- 4) Pepe F., Cinquerrui G., Panella M., Pepe G.: *Giorn. It. Ost. Gin. VIII*, 969, 1985.
- 5) Swolin K.: *Acta Obst. Gin. Scand.*, 46, 1, 1967.
- 6) Wallenbek I., Tangen O.: *Tomb. Res.*, 6, 75, 1975.
- 8) Choate W. H., Justa-Viera, Yeager G. H.: *Arch. Surg.*, 88, 249, 1964.
- 9) Holden M., Adams L. B.: *Proc. Soc. Exp. Biol. Med.*, 95, 364, 1957.
- 10) Kaufman N., Mason E. J., Kinney T. D.: *Am. J. Pathol.*, 29, 761, 1953.
- 12) Buttram V. C., Vaquero C.: *Fertil. Steril.*, 26, 874, 1975.
- 13) Weinstein D., Polishuk W. Z.: *Surg. Gyn. Obst.*, 141, 417, 1975.
- 14) Winston R. M., Gomel V.: *Reproduction*, 2, 231, 1976.
- 15) Magro B.: «Microchirurgia Ginecologica e Fertilizzazione In Vitro». Libreria scientifica già Ghedini, 1983.
- 16) Kistner R. W.: *Fertil. Steril.*, 20, 35, 1969.
- 17) Gomel V.: «Microsurgery in Female Infertility». Little, Brown and Company, Boston, Toronto, 1983.
- 18) Morandi C.: Atti Convegno La Chirurgia conservativa e ricostruttiva della sfera genitale femminile, Voghera, 1982.
- 19) Robin I. C. cited by Boronow: *Am. J. Obst. Gyn.*, 15, 1095, 1965.
- 20) Boeckx W., Graftl, Brosen I.: *Br. J. Obst. Gyn.*, 92, 266, 1985.
- 21) Canales J.: *Inter. J. Fertil.*, 18, 182, 1973.

- 22) Johnson J. W.: Proc. 10th International Conf. on Infertility and Sterility.
- 23) Oelsner G., Graebe R. A., Boyers S. P., Pan S., Barnea E. R., Cherney A. H.: *Am. J. Obst. Gyn.*, 154, 569, 1986.
- 24) Jones H. W., Rock J. A.: *Reparative and Constructive Surgery of the Female Generative Tract*. Baltimore, Williams & Williams, 1983, 120.
- 25) Boeckx W., Gordts S., Vasquez G., Bro-sens I.: *Int. Surg.*, 66, 47, 1981.
- 26) Candiani G.B., Fedele L., Zamberletti D., Vercellini P.: *Scritti in onore del Prof. N. Vaglio*, Monduzzi editore, Bologna, 1984.
- 27) Cittadini E., Quartararo P. *et al.*, in: «Fertilità e Sterilità». Atti IV Corso di Aggiornamento. Firenze 1977, COFESE Ed., Palermo, 1978.
- 28) Candiani G.B., in: «Fertilità e Sterilità». Atti del VI Corso di Aggiornamento. Firenze 1981, COFESE Ed., Palermo.

## ADVANTAGE OF DESOGESTREL CONTAINING PILL IN ORAL CONTRACEPTION: INFLUENCE ON BLOOD LIPIDS AND LCAT ACTIVITY

F. PANSINI - C. FERRARI (\*) - S. GUERRA - P. BASSI - N. GUZZINATI  
G. COCILOVO - G. MOLLIKA

Department of Obstetrics and Gynecology - University of Ferrara (Italy)

(\*) Department of Biochemistry - University of Ferrara (Italy)

*Summary:* In the present study the effects of a combined oral contraceptive preparation containing 0.150 mg desogestrel and 0.030 mg ethinylestradiol on lipid metabolism were investigated.

In particular, we observed significant increase in HDL-cholesterol and apolipoprotein-A-I (apo A-I) and B (apo B). Triglycerides were not significantly modified. The cholesterol esterifying enzyme LCAT, assayed under "maximal" conditions against an exogenous substrate, was significantly decreased despite an increase in the physiological stimulator apo A-I. No changes were observed in the anti-atherogenic indexes apo A-I/apo B and HDL-cholesterol/LDL-cholesterol.

Thus, it appears that this combined oral contraceptive has the promising ability to increase the anti-atherogenic HDL-cholesterol particle without altering the atherogenic LDL-cholesterol.

*Key words:* oral contraceptives, desogestrel, HDL-cholesterol, LCAT.

### INTRODUCTION

Relationships between blood lipids (and lipoproteins) and cardiovascular diseases (CVD) have been thoroughly investigated; in particular, an inverse relationship exists between HDL-cholesterol and the frequency of CVD (<sup>1-5</sup>). In addition the apolipoproteins (apo A-I and apo B) are considered as better discriminators for CVD (<sup>3</sup>).

In this respect the influence of sex steroids on blood lipids has been extensively investigated in women: this interest stems from the increased use of steroid based oral contraception and of the effects of hormones on lipid metabolism linked to cardiovascular disease.

A number of studies have demonstrated that estrogens and progestagens have op-