Laparoscopic management of adnexal masses in postmenopause

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Summary

The study included 64 postmenopausal women with adnexal masses. The selection criteria included menopausal status, an ultrasound scan indicating a benign mass and serum levels of CA-125 below the cutoff (35 U/ml). The results of the study confirm that the removal of a cystic mass in postmenopausal patients with laparoscopic surgery is a more valid and acceptable alternative to traditional surgery.

Key words: Postmenopause; Adnexal mass; Laparoscopic surgery.

Introduction

In young fertile women, laparoscopic surgery is usually the treatment of choice for adnexal tumors. Indeed, laparoscopic surgery is a minimally invasive, effective technique with reduced risk of complications in both the short and long term. From a therapeutic viewpoint, postmenopausal women with adnexal masses present some problems that are mainly associated with a higher incidence of neoplastic disease in older women. Until a few years ago, the approach to ovarian masses in this class of patients was exploratory laparotomy, which allowed an earlier diagnosis and subsequent treatment of ovarian cancer [1]. Very often, even in the case of a benign ovarian tumor, it was customary to remove the uterus and adnexes as prophylaxis of neoplastic disease [2]. In recent years the improvement in ultrasonographic diagnostics has made it possible to define the morphological criteria indicative of a benign mass in the evaluation of adnexal lesions [3]. In addition, the introduction into clinical practice of tumor markers, especially the CA-125 marker [4,5], has made it possible to extend the laparoscopic approach with certain assuredness to the treatment of ovarian pathology also in postmenopausal women. The purpose of this study was to evaluate the feasibility and efficacy of laparoscopic surgery in this class of women through analyses of data collected in our clinic.

Materials and Method

The study was conducted on 64 women with adnexal masses who were admitted in our department for evaluation and treatment. The selection criteria included menopausal status, an ultrasound scan indicative of a benign mass, and serum levels of CA-125 below the threshold value of 35 U/ml. The patients enrolled in the study were between 48 and 81 years old. The mean age was 63.9 years with 56 patients older than 50 years of age (87.5%) and eight (12.5%) under 50. Seven were nulliparous (10.9%) and 57 pluriparous (81.1%) with the number of births ranging from one to five. All the patients were in menopause (range 1-30 years; mean 11.5 years). Patient weight ranged from 52 to 120 (mean 66.7 kg). Ten patients had been treated with interventions in the genital area: six had had a hysterectomy (abdominal or vaginal) for benign uterine pathologies preserving one or both of the ovaries, three had had cesarean sections, and one had undergone removal of an ovarian cyst. From a clinical standpoint, 34 patients (53.1%) reported abdominal pain and/or pelvic pain of varying intensity. Five women (7.8%) reported uterine bleeding, thus hysteroscopic evaluation of the endometrium was carried out giving negative results. Two patients (3.1%) reported urinary tract problems, while 23 patients (35.9%) were asymptomatic, with the adnexal mass being incidentally discovered by clinical or ultrasound (US) examination during a routine checkup. The week before hospitalization all patients were submitted to gynecological examination with an endovaginal ultrasound probe and blood tests for determination of CA-125 levels. Presurgical standard tests were carried out together with a new US examination to define the size and characteristics of lesions. The criteria used for the presumptive diagnosis of a benign mass were those proposed by ACOG (diameter less than 10 cm, no irregularities or thickening of the wall or large septum or endocystic excrescences, and absence of ascites) [6]. Serum samples of CA-125 were implemented using CA-125 Cobas Core Ria (Roche, Switzerland) with the value of 35 U/ml as the threshold (values less than 35 U/ml were considered normal). After obtaining written informed consent from all patients who met the requirements for surgery, laparoscopy under general anesthesia with endotracheal intubation was performed, always by the same medical team. After removal of the cystic mass, it was placed in a laparoscopic endobag after having been partially aspirated. All samples were sent for contemporaneous histological evaluation. The final anatomo-pathological assessment was performed by a pathologist blinded to the results of the US and

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CA-125 values. The decision to remove the entire uterus and adnexes or only the tumor was left to the surgeon, depending on the clinical situation. Surgery included unilateral salpingo-ovariectomy in 21 cases (32.8%), bilateral ovariectomy in 16 cases (25.0%), bilateral salpingo-oophorectomy in 25 cases (39.1%), and removal of only the mass in two cases (3.1%). Due to pelvic adhesions, additional adhesiolysis was performed in ten patients. The duration of the intervention was calculated by taking the time between the first surgical incision and the last suture point. All patients were submitted to the same protocol of postoperative care and were considered to be feverish when their body temperature was above 38°C two times or more during the postoperative 24-hour period.

Results

Laparotomic conversion was necessary for only one of the 64 patients who underwent laparoscopic surgery (1.6%), due to technical difficulties related to an extensive secondary adhesion syndrome, most probably associated with a previous laparotomic intervention. Adnexal masses had variable echographic sizes: diameters ranged between 4 and 12 cm, with a mean of 6.8 cm. The serum value of CA-125 ranged between 2.9 and 34.2 U/ml, with a mean of 15.5 U/ml. In 35 cases the pelvic mass was located in the right adnexa (54.6%), in 27 cases in the left (42.2%), while in two cases (3.2%) there also was a small lesion in the contralateral adnexa. Histological examination of the surgical specimen showed no pathological alteration with evidence of malignancy in any case. Histological reports showed 24 serous cysts, 12 serous cystadenomas, six mucinous cystadenomas, six dermoid cysts, eight fibrothecomas, three inclusion cysts, two paraovarian cysts, two endometriotic cysts, and one cystic lymphangioma. Interventions varied from 40 to 70 minutes with a mean duration of 55 min. There were no intraoperative complications except for one case which was converted to laparotomy due to difficulties previously mentioned. There were also no important postsurgical complications and patients were discharged the day after the operation, except for eight women who were discharged two days after as they lived far away. All patients were asked to report any symptoms arising from discharge from hospital until the 7th day after surgery when the stitches were removed at our clinic. All postoperative exams were carried out by physicians in our department who were not present during the intervention.

Before the advent of laparoscopic surgery, the mean duration of hospital stay for interventions on benign adnexal pathologies was 3.6 days, while with the laparoscopic technique this mean duration has been reduced to 1.1 days. The patient that required laparotomic conversion was excluded from this evaluation. Her postoperative course was longer than seven days due to dehiscence of the laparotomic wound, presumably linked to the patient's dysmetabolic problems which initially made us choose the laparoscopic approach to treat her adnexal mass.

Discussion

Today, much attention is focused on the menopausal period and the use of ultrasound techniques which allow easier identification of expansive adnexal pathology in menopausal and postmenopausal patients. Until a couple of years ago, an adnexal mass required a laparotomic intervention which almost always ended up in demolitive surgery. This approach, even after great progress in the anesthesiological, surgical, and medical fields, can in some circumstances become burdensome and risky due both to the age of the patient and to her clinical condition. Although the first application of laparoscopic surgery in postmenopausal patients dates back more than 15 years ago [7], there are still few data in the literature. In many cases, these data do not meet the criteria for homogeneity because they do not exclusively include postmenopausal patients, rather, they also include women with biochemical and ultrasonographic characteristics suspicious for malignancy. When confronted with an unexpected malignant neoplasia, the laparoscopic approach to adnexal masses is still a major controversy for a number of diagnostic and therapeutic problems related to the failure of the diagnosis of ovarian malignancy, tumor rupture, inadequate staging and surgical treatment, and delay in chemotherapy [8, 9]. In our study, using specific US criteria for a benign mass and values of CA-125 below the threshold allowed us to have a careful selection of patients eligible for laparoscopy. The validity of this association is confirmed by the negative histological results for malignancy. In light of the importance of adopting strict criteria for the evaluation of adnexal masses, especially in menopausal and postmenopausal women, the results of our study and others confirm the reliability of the combination of ultrasonographic and biochemical data in the evaluation of this type of pathology [10-12]. In our study, the percentage of conversions from laparoscopic surgery to laparotomy was slightly lower than that found in the literature, which ranges from 5% to 8% [13]. This result is probably due to the inhomogeneity of data, the fact that our study is the most recent and reflects continuing improvements in the laparoscopic technique, the small number of enrolled patients and, last but not least, the rigorous selection of the patients that were submitted to endoscopic treatment. Data related to the duration of intervention (55 min), postoperative complications, and shorter hospital stay are similar to data reported in the international literature – some small differences are probably dependent on the healthcare organization [14]. Thus the laparoscopic approach for this type of pathology comprises a reduced hospital stay, lower incidence of complications, and a faster return to normal activities. Laparoscopic surgery also offers significant medical and psychological advantages in this category of women resulting in better acceptance by the patient and a lower impact on the health economy. In conclusion, we can confirm that laparoscopic surgery for benign adnexal masses in postmenopausal women can be a viable alternative, provided

that these patients are submitted to a thorough ultrasonographic evaluation and to tumor-marker evaluation, which can reassure us as to the benign nature of these tumors.

References

[1] Parker W.H., Berek J.S.: "Management of selected cystic adnexal masses in postmenopausal women by operative laparoscopy: a pilot study". *Am. J. Obstet. Gynecol.,* 1990, *163*, 1574.

[2] Creasman W., Soper J.: "The undiagnosed adnexal mass after the menopause". *Clin. Obstet. Gynecol.,* 1986, *29,* 446.

[3] Herrmann U.J.: "Sonographic patterns of ovarian tumours". *Clin. Obstet. Gynecol*., 1993, *36,* 375.

[4] Bast R.C., Klug T.L., St John E., Jenison E., Niloff J.M., Lazarus H. *et al*.: "A radioimmunoassay using a monoclonal antibody to monitor the course of epithelial ovarian cancer". *N. Engl. J. Med.,* 1983, *309,* 883.

[5] Fritsche H.A., Bast R.C.: "CA 125 in ovarian cancer: advances and controversy". *Clin. Chem.,* 1998*, 44,* 1379.

[6] Seltzer V.L., Maiman M., Boyce F.: "Laparoscopic surgery in the management of ovarian cysts". *Female Patient,* 1992, *17*, 16.

[7] Dottino P.R., Levine D.A., Ripley D.L., Cohen C.J.: "Laparoscopic management of adnexal masses in premenopausal and postmenopausal women". *Obstet. Gynecol*., 1999, *93,* 223.

[8] Childers J.M., Nasseri A., Surwit E.A.: "Laparoscopic management of suspicious adnexal masses". *Am. J. Obstet. Gynecol*., 1996, *175,* 1451.

[9] Yuen P.M., Yu K.M., Yip S.K., Lau W.C., Rogers M.S., Chang A.: "A randomized prospective study of laparoscopy and laparotomy in the management of benign ovarian masses". *Am. J. Obstet. Gynecol*., 1997, *177*, 109.

[10] Van Herendael B., Beretta P., Slangen T., Franchi M., Swaegers M., Zanaboni F.: "Management of adnexal masses by operative laparoscopy". *J. Am. Assoc. Gynecol. Laparosc.,* 1995, *2*, 273.

[11] Parker W.H., Levine R.L., Howard F.M., Sansone B., Berek J.S.: "Management of selected adnexal masses in postmenopausal women by operative laparoscopy - A multicentered study". *J. Am. Assoc. Gynecol. Laparosc.,* 1994, *1* (4, Part 2), S27.

[12] Shalev E., Eliyahus S., Peleg D., Tsabari A.: "Laparoscopic management of adnexal cystic masses in postmenopausal women". *Obstet. Gynecol*., 1994, *83*, 594.

[13] Chapron C., Dubuisson J.B., Capella-Allouc S.: "Salpingo-oophorectomy for adnexal masses. Place and result for operative laparoscopy". *Eur. J. Obstet. Gynecol. Reprod. Biol*., 1997, *73*, 43.

[14] Davison J., Park W., Penney L.: "Comparative study of operative laparoscopy versus laparotomy: analysis of the financial impact". *J. Reprod. Med*., 1993, *38*, 357.

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