Gynecology & Obstetrics
ISSN: 2161-0932
OPEN ACCESS Freely available online
Research Article

Surgical Management of Presumed Benign Ovarian Tumors in a Level 2 Hospital in Dakar (Senegal)

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ABSTRACT

Objectives: To describe the socio-demographic characteristics of the patients, to specify the clinical, paraclinical, surgical and anatomopathological aspects of ovarian tumors, to assess the concordance between the results of the imaging (ultrasound, scanner, MRI) and those of the anatomopathology and specify the factors influencing the choice of approach and surgical procedure.

Patients and methods: This was a retrospective, descriptive and analytical study conducted over a period of three years (36 months) and concerning all patients who underwent surgical treatment for a presumed benign ovarian tumor at Ouakam military hospital. We studied the socio-demographic characteristics of the patients, the clinical, ultrasound and therapeutic data and the histological nature of the tumour. Data were entered and analyzed using Epi info version 7 software.

Results: One hundred and seventy patients met our inclusion criteria. The epidemiological profile was that of a woman with an average age of 34, married (63.5%), nulliparous (55.3%), in a period of genital activity (80.6%). Chronic pelvic pain (52.4%) was the main reason for consultation followed by menstrual cycle disorders (18.8%). The clinical examination found in most patients a pelvic (47.6%) or abdominopelvic (12.4%) mass. The pelvic ultrasound concluded with an organic ovarian cyst (68.2%) most often unilateral (73.5%). The average cyst size was 8 cm; giant cysts represented 19.4% of the sample. The surgical approach was most often done by laparotomy (75.2%), laparoscopy was performed only in 24.7% of cases. The choice of approach was influenced by the age of the patient (0.109), the history of pelvic surgery (p=0.274) and the size of the cyst (p=0.578) without there being statistically significant link. Spinal anesthesia was the main type of anesthesia used (59.4%). The surgical procedures performed were, in order of frequency, ovarian cystectomy (59.4%), adnexectomy (25.3%) and total hysterectomy with bilateral adnexectomy (12.4%). The operative incidents noted were represented by cyst ruptures (5.3%). The postoperative course was most often simple (98.8%). The most common histological types were dermoid cysts (35%) followed by serous cystadenomas (26%) and ovarian endometriomas (17%). We recorded one case of papillary and serous adenocarcinoma (0,6%).

Conclusion: Presumed benign ovarian tumors are common in gynecological practice. Their diagnosis benefited from the contribution of ultrasound and the fear is ovarian cancer. Laparoscopy is the reference approach for the management.

Keywords: Dermoid cyst - Ovarian cancer - Laparotomy – Laparoscopy.

INTRODUCTION

Presumed Benign Ovarian Tumors (TOPB) are a common pathological entity in gynecological practice. These are tumors of an organic or functional nature and the haunting is represented by "borderline" tumours. Their management is surgical and aims to ensure complete excision of the tumor, to limit the risk of recurrence, to prevent any risk of tumor dissemination and to preserve subsequent fertility as much as possible. Through this study,

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Received: 29 August, 2023, Manuscript No. gocr-23-26374; **Editor assigned:** 4 September, 2023, PreQC No. gocr-23-26374 (PQ); **Reviewed:** 12 March, 2024, QC No. gocr-23-26374 (Q); **Revised:** 16 March, 2024, Manuscript No. gocr-23-26374 (R); **Accepted Date:** 18 March, 2024; **Published:** 01 May, 2024
Citation: Niang MM, Samb F, Cisse CT (2023) Surgical Management of Presumed Benign Ovarian Tumors in a Level 2 Hospital in Dakar (Senegal). 14:3

we wanted to determine the frequency of BPT, describe the epidemiological profile of patients, specify the clinical, paraclinical, surgical and pathological aspects of ovarian tumors and assess the factors influencing the choice of surgical procedure performed.

MATERIALS AND METHODS

Type and period of study

This was a retrospective, descriptive and analytical study concerning BPT operated over a period of 36 months (3 years) in a level 2 referral hospital in Dakar. The parameters studied were as follows: frequency, patient characteristics, clinical, ultrasound and surgical data and the results of the histology of the surgical specimen.

Patient selection criteria

Were included all patients operated during the study period at the Military Hospital of Ouakam (HMO) and whose records were usable. Ovarian cancer cases were not included.

Collection of data

We carried out a retrospective collection of data from patient files, operative reports and recorded them on a computerized file. The parameters studied were as follows: frequency, patient characteristics, clinical, ultrasound and surgical data and the results of the histology of the surgical specimen.

Data analysis

Data analysis was carried out using IBM SPSS version 20 softwares. The qualitative variables were described in number, percentage and the quantitative variables in average with the standard deviation and the extremes. Concerning the analytical part of the study, the Chi2 test was used for the comparison of proportion. The difference was statistically significant when the p value was strictly less than 0.05.

RESULT

Frequency

During the study period, we performed 170 surgeries for TOPB, representing a frequency of 13% of all gynecological procedures.

Socio-demographic characteristics of patients

The average age of the patients was 34 years old with extremes of 13 years and 63 years old. The age group of 30 years to 39 years was the most represented (40.6%). The patients were most often nulliparous (55.3%) in period of genital activity (80.6%), married (63.5%). We recorded a history of pelvic surgery in 28 patients (16.5%) including 9 ovarian cystectomies (5.3%) (Table 1).

Table 1: Socio-demographic characteristics of patients (N=170).

Settings	Number (n)	Frequency (%)
Age (years)		
≤ 19	7	4.1
20 to 29	51	30
30 to 39	69	40.6
40 to 49	35	20.6
≥ 50	8	4.7
Period of genital life		
Puberty	4	2.4
Period of genital activity	137	80.6
Menopause	29	17.1
Situation matrimoniale		
Married	108	63.5
Single	50	29.4
Divorce	10	5.9
Widow	2	1.2
Parity		
Nulliparous	94	55.3
Primiparous	20	11.8
Pauciparous	29	17
Multipara	27	15.9
Surgical history		
None	142	83.5
Ovarian cystectomy	9	5.3
Adnexectomy	1	0.6
Other pelvic surgeries	18	10.6

Clinical and paraclinical data

Reasons for consultation : Chronic pelvic pain was the main reason for consultation (52.4%) followed by menstrual disorders (18.8%).

Physical examination: The clinical examination was most often normal (39.4%). The abnormalities found were: a pelvic mass in 50 patients (29.4%), a laterouterine mass (18.2%), an abdominopelvic mass (12.4%) or a high abundance of ascites (0. 6%).

Paraclinical examinations: A pelvic or abdominopelvic ultrasound performed in 166 patients (97.6%) most often demonstrated an organic ovarian cyst (68.8%) (Table 2). A bilateral nature of the cyst was noted in 45 patients (26.5%). The size of the cyst was between 2 cm and 30 cm with an average of 8.03 cm. In more than half of the cases (57.6%), the size of the cyst was less than 10 cm. Seventeen patients (10%) had benefited from a pelvic or abdomino-pelvic CT scan.

Table 2: Distribution of patients by the results of the pelvic or abdominopelvic ultrasound performed (N=170).

Results of the pelvic or abdominopelvic ultrasound	Number	Frequency (%)
Ovarian organic cyst	117	68.8
Dermoid ovarian cyst	23	13.5
Endometriotic ovarian cyst	11	6.5
Serous ovarian cyst	9	5.3
Mucinous ovarian cyst	4	2.3
Ovarian organic cyst associated with pregnancy	2	1.2
Not made	4	2.4
Total	170	100

Surgical data

Type of anesthesia and approach: The operation was most often performed under spinal anesthesia (59.4%). General anesthesia was performed in 60 patients (35.3%) and we recorded 9 cases of conversion from spinal anesthesia to general anesthesia (5.3%). The most common surgical approach was laparotomy (75.2%), laparoscopy was used in 42 patients (24.7%) (Figure 1).

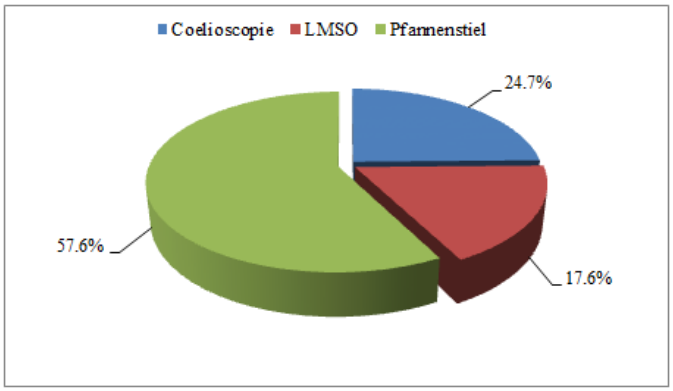

Figure 1: Distribution of patients by surgical way (N=170).

Exploration and surgical procedure performed: Pelvic adhesions were observed in 47 patients (27.6%) and the ovarian cyst was most often unilateral (73.5%). Ovarian cystectomy was the most performed surgical procedure (59.4%) followed by adnexectomy (25.3%) and hysterectomy with bilateral adnexectomy (12.4%) (Figure 2). In patients over 50 years of age, adnexectomy and hysterecomy associated with bilateral adnexectomy were more frequently performed in respective proportions of 25% and 75% with a statistically significant link (p=0.001) (Table 3). The associated surgical procedures were myomectomy (13.5%) or adhesiolysis (27.6%).

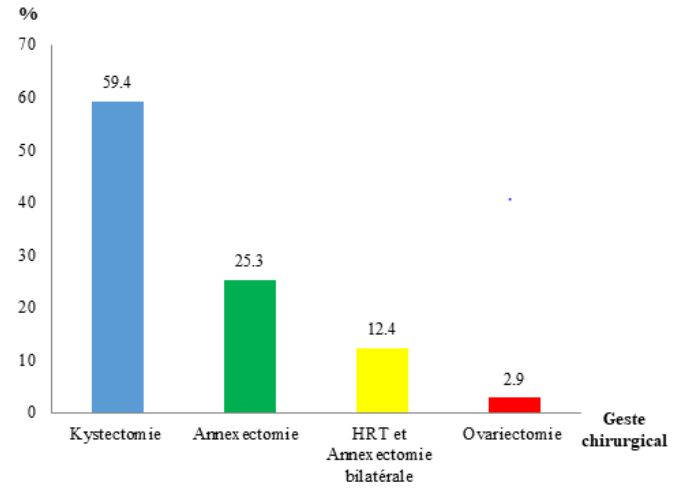

Figure 2: Distribution of patients by surgical procedures performed (N=170).

Table 3: Surgical procedure performed according to age of patients (N=170).

Age (years)	Adnexectomy	Hysterectomy with adnexectomy	Cystectomy	Ovariectomy	Total
	N (%)	N (%)	N (%)	N (%)	
10-19	1(14.3)	-	6(85.7)	-	7
20-29	12(23.5)	1(2.0)	36(70.6)	2(3.9)	51
30-39	15(22.1)	2(2.9)	49(72.1)	2(2.9)	68
40-49	13(37.1)	12(34.3)	9(25.7)	1(2.9)	35
≥ 50	2(25)	6(75)	-	-	8

Intraoperative incidents: An intraoperative incident was recorded in eleven patients (6.5%). These were 9 cases of cyst rupture (5.3%), bladder injury (0.6%) and amputation of the tubal pavilion (0.6%).
Post-operative follow-up: The postoperative course was most often simple (98.8%). Two patients (1.2%) presented parietal suppuration with loosening of the sutures, which progressed well after local treatment.
Anatomo-pathological examination of the surgical specimen: The most common histological type was dermoid cyst (35%) followed by serous cystadenoma (26%) and endometrioma (17%). We recorded one case of papillary and serous adenocarcinoma (0.6%) (Table 4).

Table 4: Distribution of patients by the results of the anatomo-pathological examination (N=170).

results of the anatomo-pathological examination	Number	Frequency (%)
Dermoid cyst	60	35
Serous cystadenoma	44	26
endometrioma	29	17
Mucinous cystadenoma	28	16.7
Functional cyst	8	4.7
Papillary and serous adenocarcinoma	1	0.6
Total	**170**	**100**

Discussion

The prevalence of presumed benign ovarian tumors (TOPB) varies according to the authors. In our series, patients in reproductive activity were the majority (87%) while postmenopausal women represented only 13% of cases. Our results are comparable to those reported by Traoré and Dicko who respectively reported 83.3% and 79.7% of women in the period of genital activity [1,2]. In 2013, in the Recommendations for Clinical Practice (RPC) of the National College of French Gynecologists and Obstetricians (CNGOF), it was noted that in Europe, in particular in France, BPT were more frequent in postmenopausal women (14 and 18%) followed by those in the period of reproductive activity (7%), pregnant women (0.2% to 5%), prepubescent girls and adolescents (1% to 12%) [3]. Slightly more than half of our patients (51.7%) were nulliparous. The role of low parity in the occurrence of ovarian tumors has been demonstrated by some authors [4].

The diagnosis of TOPB was suggested for almost all of the patients (97.6%) on the basis of a pelvic or abdominopelvic ultrasound. According to the CNGOF RPC on TOPB published in 2013, vaginal pelvic ultrasound with a specificity of 80% and a sensitivity of 90% is the first-line examination to be performed to diagnose ovarian cysts [5,6]. In our series, it had concluded in 116 patients (68.2%) an organic cyst of the ovary without further details. The details provided on the characteristics of the tumour, in particular its probable type, make it possible to refine our surgical strategy. The specificity of ultrasound in this area has been demonstrated by Bachard in Tunisia who found a specificity of 95.4%. The expertise of the sonographer is also an important parameter for the diagnosis and management of BPT [7]. Computed Tomography (CT) and especially Magnetic Resonance Imaging (MRI) of the pelvis will only be carried out in the event of diagnostic doubt as to the ovarian origin or not of a pelvic cystic lesion. CT is therefore not considered a second-line technique after ultrasound for the characterization of pelvic masses, with the exception of the characterization of mature cystic teratomas [8].

Concerning therapeutic management, laparotomy (75.2%) was the most common approach. Laparoscopy was used in 42 patients (24.7%) although it is the reference approach for BPT surgery. In fact, it reduces postoperative adhesions [9]. In our practice, its still low use in this indication could be explained by its limited availability in our structures and the reduced number of human resources trained in its use. Ovarian cystectomy was the most

common surgical procedure (59.4%). This greater frequency of conservative surgery is justified by the predominance of young women in our study sample. Indeed, the average age of our patients was 34 years. Radical surgery such as adnexectomy or hysterectomy with adnexectomy was reserved for postmenopausal women and giant ovarian cysts, in accordance with data from the literature [9-10]. In our series, the most frequent histological type was the dermoid cyst (35%) followed by the serous cystadenoma (26%). The same observation is made in Togo by Darré who found a predominance of the serous cyst (39.71%) followed by the dermoid cyst (28.71%) [11]. This could be explained by the fact that these histological types are the most frequent in young women who are the most represented in our study.

CONCLUSION

TOPBs are frequent in our practice. Ultrasound is the first-line examination for diagnosis. Their treatment is surgical and the reference approach is laparoscopy. However, in our practice, laparotomy remains even more frequent. Due to the relatively young age of the patients, conservative treatment such as ovarian cystectomy is most often performed.

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