Case report

Giant ovarian tumor: a case report and review of the literature.

Abstract

Epithelial ovarian cancer is the most lethal gynecological cancer. Serous-type epithelial ovarian cancer, the most common form with more than 50% of cases, is often diagnosed late and associated with a poor prognosis.

This is a retrospective study on a patient who was diagnosed with a clinically benign giant ovarian tumor and who was hospitalized in the visceral surgery department "I" at the Mohamed V Military Instruction Hospital in Rabat.

The surgical intervention allowed complete excision of the mass (R0 resection). Likewise, we performed a hysterectomy, bilateral adnexectomy, omentectomy and appendectomy without lymph node dissection.

Histological examination was compatible with a morphological appearance and an immunohistochemical profile in favor of a high-grade serous ovarian carcinoma.
Adjuvant chemotherapy type treatment based on PACLITAXEL 280 CARBOPLATINE 650 spread over 6 cycles.

The evolution was favorable in our patient, with a follow-up of one year without any sign of recurrence.

Key words: Ovary; Ovarian giant mass; Serous carcinoma.

Introduction:

Ovarian tumors are called as benign or malignant, primary or secondary, cystic, solid or vegetative proliferative processes, the growth of which is not closely related to hormonal imbalance. [1]

Ovarian cancer is the deadliest gynecological cancer. It is considered to be the eighth most common cancer in women and is the fourth cause of cancer death in women in France. It mainly affects postmenopausal women. [2]

Ovarian tumors are classified into three main histological categories: epithelial tumors (60%), germ cell tumors (30%) and tumors of the gonadal stroma and sex cords (8%). Most malignant tumors are epithelial tumors (80%). Ovarian carcinomas constitute a heterogeneous set of lesions, the treatment of which would depend on the histological subtype. [3]

Initial treatment for high-grade ovarian cancer is primarily guided by the stage of the disease, as determined by the FIGO (International Federation of Gynecology and Obstetrics) classification, which distinguishes early-stage cancers (FIGO I-II) advanced stage cancers (FIGO III-IV). [4]

Ovarian tumors are most often latent, revealed incidentally during an ultrasound, a radiological examination, even a laparoscopy or a laparotomy or a routine gynecological examination. [1]

The clinical examination is the very first essential step to perform because it provides valuable data on the functioning of the ovaries. [5]

Endovaginal pelvic ultrasound remains the gold standard for exploring ovarian function. [5]

To this day, the role of pelvic MRI remains mainly for the determination of a suspicious adnexal lesion and not for the exploration of ovarian function. [5]

The definitive diagnosis of cancer is histological and requires a histological sample. [6]

The prognosis of ovarian cancer will, of course, depend on the rapidity of diagnosis and complete surgical excision or not, but also on the stage of development, type and histological grade. [1]

This work is a retrospective study around a case diagnosed and treated in the department of visceral surgery I at the military instruction hospital Mohamed V (HMIMV), reporting the case of a 44-year-old woman with a rare giant ovarian tumor .

Case report:

We report the case of Mrs. FT, 43 years old, married, mother of 4 children, not menopausal, living in Salé. Without notable pathological ATCD, with a cycle that was regular. She was sent to our training for the management of an abdominal mass.

The evolution was marked by an unencrypted AMG in an AEG context.

On general examination it is a WHO 0 patient; ASA 1; GN 2.

Abdominal examination revealed abdominal distension, with the presence of an enormous abdomino-pelvic mass measuring 20cm x 10cm on palpation, of hard consistency, mobile in relation to the deep plane.

Rectal examination was unremarkable. Examination of the vagina: finds a uterus of normal size with the presence of a right latero-uterine mass, mobile and of hard consistency. Speculum: the healthy cervix. Breast examination was unremarkable.

The rest of the somatic examination was without abnormalities, no HMG or SMG, and the nodal areas were free.

In the case reported, the ultrasound data were in favor of a voluminous abdomino-pelvic mass with bumpy contours, of iso-echoic, heterogeneous tissue structure containing cystic areas slightly vascularized on color Doppler measuring approximately 21/12 cm.

In conclusion, it was an abdominopelvic mass probably of right ovarian origin without being able to rule out a degenerating subserous myoma.

The radiological assessment was supplemented by an abdomino-pelvic MRI (Fig. 1-2) which objectified an abdomino-pelvic mass of ovarian origin classified ORADS 5 associated with retro-peritoneal lymphadenopathy.

The biological assessment was marked by: an increase in tumor markers CA125: 404 CA19-9: 127 normal ACE. The rest of the biological assessment was normal.

The extension assessment did not show any remote secondary lesions. In addition, a hepatic nodule in segment III corresponding to an angioma was detected.

Surgical exploration found the following results:

* The right ovary was entirely tumoral measuring 22x14x9 cm with a poorly limited appearance, with a budding and vegetating appearance.

* The uterine cavity was free, with no suspicious macroscopic lesion.

* The left appendix is free of tumor infiltration.

* An appendix measuring 3.3 cm with exemato-congestive wall.

The indication for radical treatment by laparotomy was retained; An R0 resection was performed, which consists of:

*En bloc excision of the right ovarian tumor

*Total hysterectomy without adnexal preservation (bilateral adnexectomy)

*An omentectomy

*An appendectomy

She had also benefited from a peritoneal cytology.

Furthermore, lymph node dissection was not performed and this is justified by the lack of precision on the histological nature of the tumor (the frozen section examination was not performed for technical reasons).

However, the patient received adjuvant chemotherapy based on PACLITAXEL 280 CARBOPLATINE 650 spread over 6 cycles.

The histological study of the surgical specimen reveals a tumoral proliferation of primary nature; this appears with a morphological aspect and an immunohistochemical profile in favor of a high-grade serous ovarian carcinoma; left adnexectomy free from tumor infiltration with a subatrophic endometrium and a cervix with congestive changes. Omentectomy did not find any tumor infiltration, with the presence of connective-adipose tissue, the site of non-specific chronic fibro-inflammatory changes. The appendicular wall is oedemato-congestive with no tumor infiltration.

The postoperative course was simple, with a follow-up of 1 year, without any sign of recurrence.

The control radiological assessment was carried out as follows:

*CT TAP 27/01: CT appearance objectifying a lesion of segment II of the liver associated with latero-aortic ADP and a free hysterectomy compartment.

*CT TAP 07/18: CT appearance showing a right adrenal nodule to characterize.

* Control biological assessment showed normalization of tumor markers: CA125: 10 CA19-9: 11.

In view of the result of the control radiological assessment, and after the decision of the CPR: "2nd step" surgical revision for a possible lymph node dissection at the level of the visceral surgery department "I" Mohamed V Military Instruction Hospital in Rabat.

The anatomopathological examination concludes that there are no lymph node metastases at the different locations taken during dissection (pelvic, iliac, primitive iliac, right primitive iliac, right pelvic, latero-iliac, latero-caval).

The liver biopsy was free of any tumor infiltration with a parenchyma of preserved morphology, moreover the presence of two reaction lymph nodes is noted.

In total, it is an epithelial ovarian tumor of the high-grade serous carcinoma type operated on and put on adjuvant treatment based on 6 cycles of chemotherapy followed by a resumption for lymph node dissection, the histological study of which confirms the absence. of lymph node metastases at different locations taken during dissection.

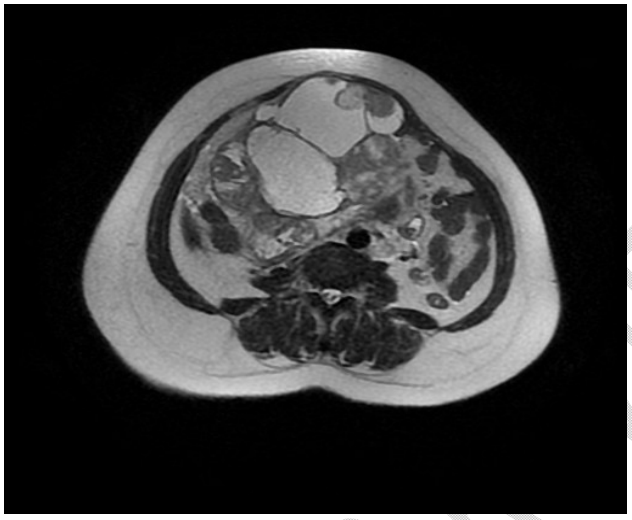

Fig. 1:***Pelvic MRI in AXIAL T2 weighting, showing a voluminous multi-loculated abdomino-pelvic mass, with lobulated outlines, with a double cystic and fleshy component with an intermediate T2 signal restricting the diffusion of early and heterogeneous enhancement after injection of the PDC.***

(Visceral Surgery Service "1" – ,Mohammed V Military Hospital - *Rabat MOROCCO)*

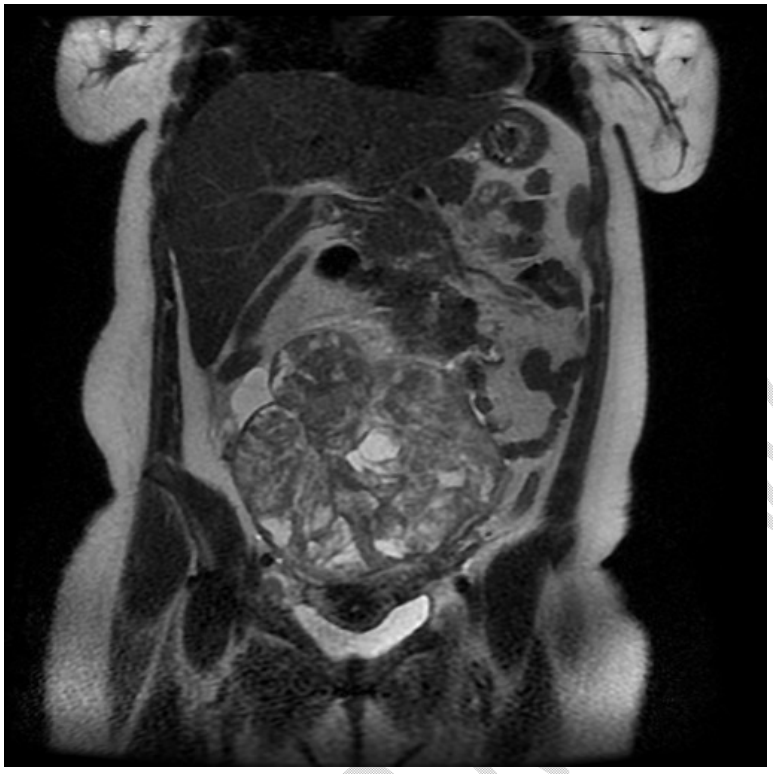

Fig. 2: **MRI of the pelvis in coronal weighted T2 sequence injected to characterize the ratios of the mass which comes into close contact with the uterus and the bladder, with repression of the digestive loops in front and laterally.**

(Visceral Surgery Service "1" – , Mohammed V Military Hospital - *Rabat MOROCCO)*

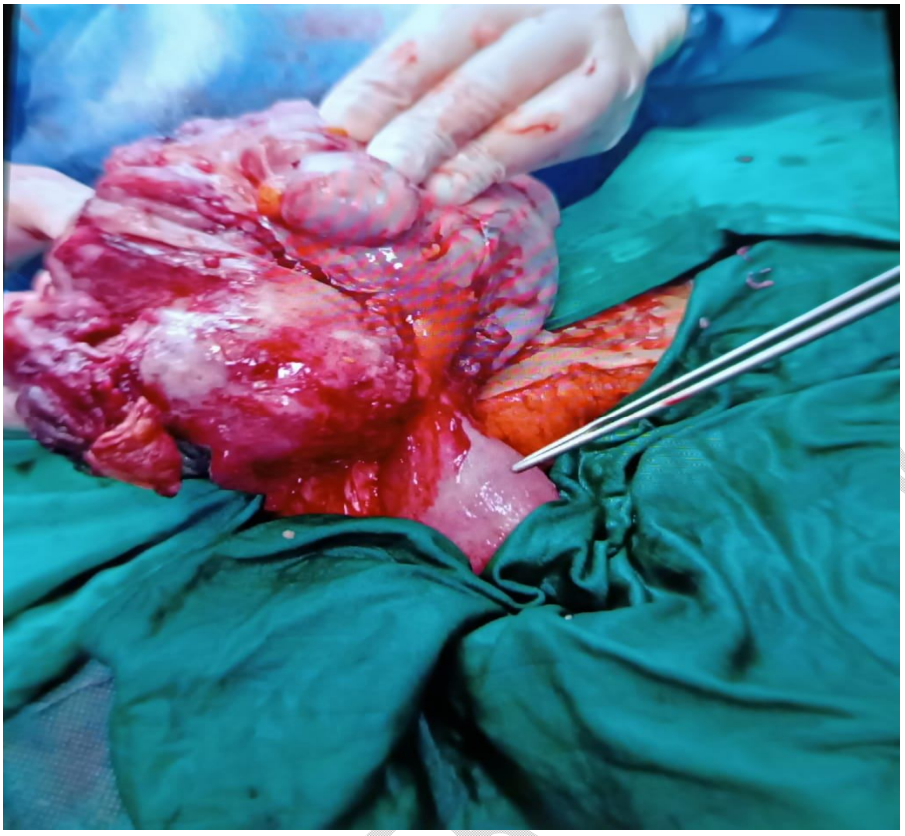

Fig.3:**Per-Operative image showing a Lateral view of the mass which adheres to the uterus hence the indication for hysterectomy.**

(Visceral Surgery Department I, HMIMV Rabat MOROCCO)

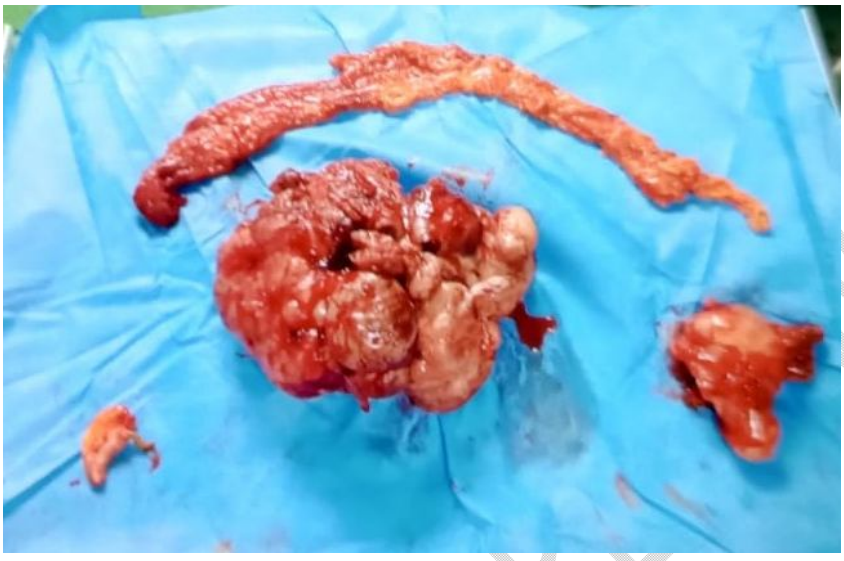

Fig. 4: **Postoperative image showing the surgical specimen after en bloc resection of the right ovarian tumor with total hysterectomy and bilateral adnexectomy, combined with omentectomy and appendectomy.**

(Visceral Surgery Department I, HMIMV Rabat MOROCCO)

Discussion:

Ovarian cancer is a disease of developed countries. It represents 3.7% of cancers in women (6th place). It is linked to 4.2% of deaths attributable to cancer (7th place). [7]

Ovarian cancer ranks 7th with 4,430 new cases estimated in 2008, according to the cancer registry of INO (National Institute of Oncology) RABAT-MOROCCO. The incidence: 12-14

per 100,000 with respect to the normal population; The incidence is 50/100,000 in the age group of 55 to 65 years. [8]

More than 90% of ovarian cancers in adults are epithelial cancers (adenocarcinoma). [9]

Hereditary forms of ovarian cancer represent 5% to 10% of cases: epithelial carcinoma alone or associated with breast cancer (BRCA 1 and 2 mutations) or Lynch syndrome associating ovarian cancer with colon or breast cancer. endometrium. [7]

More than 90% of epithelial ovarian cancers are sporadic. [10]

All the situations allowing to decrease the number of ovulations during the hormonal and gynecological reproductive life play a protective role. Thus, a high number of pregnancies, the use of breastfeeding and a long duration of oral contraception reduce the risk of ovarian cancer. [10]

Conversely, risk factors are readily associated with relative hyperestrogenia: hormonal treatment of menopause, endometriosis, infertility, polycystic ovary syndrome, obesity, diabetes. [10]

From an environmental and toxic point of view, occupational exposure to certain aromatic compounds has a deleterious role, while the protective effect of sun exposure and vitamins A and D is mentioned. [10]

Because of the ignorance of its warning symptoms, its late and non-specific symptomatology as well as the relative inaccessibility of the ovaries on physical examination, ovarian cancer is considered a dreadful disease often diagnosed late, where the chances survival rates are rather low. [11]

In fact, only 25 to 30% of affected women are diagnosed at an early stage, when the cancerous tumor is still limited to the ovary. It is therefore not surprising that ovarian cancer is recognized as 'the silent disease'. [11]
The diagnosis of ovarian tumors will arise in varying circumstances. He remains silent for a long time. [12]
Symptoms appear gradually as the tumor grows. This explains why the diagnosis is often made when the disease is already advanced. [12]

This agrees with our study which found, as a revealing sign of the ovarian tumor in our patient, the presence of an isolated abdomino-pelvic mass.
Complementary examinations make it possible to specify the location of the tumor and its extension, as well as to check whether the lymph nodes are affected and whether there are metastases. [13]

Pelvic ultrasound is the first-line imaging test to explore ovarian function. [5]

Computed tomography makes it possible to visualize the pelvic and retroperitoneal regions.
Indeed, this examination is associated with a false negative rate of about 45%. [14]

The TAP scanner will specify the state of the liver and lungs in search of metastases, the extension of a possible peritoneal carcinomatosis and especially the existence of possible pelvic and lumboaortic lymph node invasion. [2]

Pelvic MRI is complementary to ultrasound and should not be prescribed as first-line.
It can be of some help when the endovaginal route is not possible and/or the patient has a poor echogenicity window. [5]

Positron emission tomography (PET) may be prescribed in ovarian cancer to look for residual disease after chemotherapy or detect suspected recurrence by other imaging or CA 125 elevation. [2]

In the detection of ovarian cancer, the sensitivity of the CA-125 assay oscillates between 30% and 35% and its specificity is 95% (for a detection threshold of 35 U/ml).
The choice of markers in monitoring should be guided by histological type. [15]

In monitoring immature dysembryoma, it may be useful to measure alpha-feto-protein, or even high hCG if there is a choriocarcinomatous contingent, or sometimes inhibin, the secondary elevation of which raises fears of secondary localization . [2]

The choice of approach depends on the size of the ovarian tumour(s), their degree of "estimable malignancy" before surgery, their predominant component (cystic or solid) and the existence of any associated peritoneal lesions. [16]

Laparoscopy has a double interest:
*Confirm the diagnosis if in doubt with other pelvic masses (hydrosalpinx, endometriosis, peri-tubo-ovarian adhesions); complete exploration of the abdominopelvic cavity, to assess the feasibility of complete cytoreduction surgery.
*Firstly, it allows directed biopsies to be carried out to confirm the precise histological nature of the carcinomatosis.et determine the nature of the tumour. [17]

For the reported case; laparoscopic treatment was not proposed for this patient because of the very large volume of this abdominopelvic tumour.

The surgical approach is performedin the reported casevia midline xypho-pubic laparotomy.

The use of a carcinomatosis extension assessment score isrecommended.

During the evaluation laparoscopy: it is the Fagotti score, which describes the extension of the tumoral disease. [18]

In the case reported, the Fagotti score is 0, because the liver lesion objectified by liver MRI was in favor of a hepatic angioma measuring 19x12 mm (< 2 cm).

Ior midline laparotomy with the aim of complete excisione, we use the Sugarbaker Peritoneal Cancer Index (PCI). Initially designed to describe the extent of carcinomatosis in digestive cancers during laparotomy, this score was then used and validated in the ovary. The PCI score is the sum of the scores assigned to 13 regions abdomino-pelvic.[18]

Throughout our study, the impairment was limited to theregionpelvic floor with a PCI score of 5, distributed as follows:
*Indeed, the right ovary was entirely tumoral measuring 22x14x9 cm => PCI score at3.
* Ie tumor nodule in contact with the bladder measuring 1.5x0.6x0.3 cm => score PCI at 2.

Ovarian tumors are also classified according to their histological grade and tumor stage.
In ovarian cancer, the most widely used staging system is the FIGO classification (stages I to IV). [13]

In the reported case, iIt was an ovarian tumor classified as stage IIB justified by the absence of lymph node metastases.

The treatment of ovarian cancer involves a multidisciplinary approach which most often consists of combining surgery and chemotherapy. [2]

The surgery must necessarily be the first therapeutic step for 3 reasons:
* Ihe surgery allows a histological diagnosis by taking samples from the ovarian tumor or from the metastatic foci.
* Ihe surgery gives a reliable assessment of the tumor extension by a rigorous inventory of the lesions both at the pelvic level and at the abdominal level.
* It therefore gives the possibility of defining the stage of extension. [17]

A conservative surgery may be considered in case of FIGO stages IA, grade 1 or grade 2 of serous, mucinous or endometrioid type.
It includes a unilateral or bilateral cystectomy, an oophorectomy or a unilateral adnexectomy, preserving however the uterus and the contralateral adnexa if it is healthy. [17]

Radical surgeryshould be as complete as possible, because the main prognostic factor for ovarian adenocarcinoma is the size of the residual tumor volume after surgery (Total hysterectomy with bilateral adnexectomy-Omentectomy-Appendectomy- Lymphadenectomy-Peritoneal biopsies- Peritoneal cytology). [17,19,20]

The combination of surgery and platinum-based chemotherapy plays a big role in the treatment of ovarian cancer. [4]

The association carboplatin (AUC 5–6) and paclitaxel (175 mg/m2) every 3 weeks is the basic protocol.
In the context of adjuvant treatment, chemotherapy must include a minimum of six cycles, starting within six weeks of cytoreduction surgery. [21]

The major therapeutic advances of the last few decades have been made in maintenance strategies for advanced cancers. [4]
Thus, the use of poly ADP-ribose polymerase (PARP) inhibitors and bevacizumab in maintenance from the first line of treatment is an individualized management approach that has improved the prognosis of patients who can benefit from these treatments. [4]

Bevacizumab was not recommended in our patient due to the absence of macroscopic tumor residue after the initial cytoreductive surgery.

For monitoring thecasereported, wehas adoptedFor:
* A careful questioning as well as a clinical examination.
*The dosage of tumor markers, namely CA-125 and CA 19-9.
*A control thoraco-abdomino-pelvic scanner.
*A liver MRI as part of the evolutionary follow-up of the liver lesion. [22]

Symptoms should be assessed at 3 months, 6 months, 12 months, 18 months, and 24 months, then annually;Since ovarian cancer relapses are rapid and unpredictables.[22]

On opted for close monitoring for the benefit of our patwant to know:
*A consultation in the visceral surgery department every 3 to 4 months for the first 3 years then every 6 months for at least 5 years.
*In fact, our patient also benefits from meticulous follow-up in the oncology department of HMIMV as a complement to its adjuvant treatment.

In women with a genetic risk of ovarian cancer (BRCA1/2 Mutation) [2]:
* Follow-up from age 30: gynecological and breast examination twice a year + pelvic ultrasound and CA125 once a year.
* From the age of 40 (BRCA1) or 45 (BRCA2): prophylactic bilateral adnexectomy proposed

Conclusion:

Ovarian pathology is frequent, most often functional and acute, but sometimes malignant and asymptomatic. [1]

It is a severe disease whose diagnosis is made in the majority of cases at an advanced stage, that is to say with peritoneal involvement beyond the ovaries. [2]

This gives this cancer a poor prognosisyew,since the average survival rate is 45% at 5 years. [2]

The standard treatment is surgery combined with chemotherapy. [17]

Surgery has a central place in the management of this cancer. The surgical gesture must be complete, with no residual tumor at the end of the intervention. This criterion depends on the benefit in terms of patient survival. [17]

It has been profoundly modified in a few years via the anchoring of maintenance protocols with PARP inhibitors and/or bevacizumab from the first line based on platinum. [4]

Preserving the patient's quality of life is an important and permanent objective from the start of the care pathway and up to the follow-up and must be taken into account to determine the therapeutic strategy. [2]

References

[1]Ovarian tumors - National College of Gynecologists and Obstetricians French (CNGOF) - © Francophone Virtual Medical University - Date of creation of the 2010-2011 document.

[2]Tumors of the ovary -J. Lansac, H. Marret - Gynecology – For the practitioner © 2018-Elsevier Masson SAS-All rights reserved.

[3]**Item 303: ovarian cancer** -CODEX, S-ECN.COM - Revision 14/12/2020.

[4]**Medical treatment of epithelial ovarian cancers**- P. Corbaux, C. Sajous, J. Péron, N. Bakrin, P.-A. Bolze, O. Glehen, V. Kepenekian, W. Gertych, C.-A. Philip, G. Chene, M. Devouassoux-Shisheboran, J. Lopez, S. Pinson, S. Giraud, P. Rousset, A. Bruyas, S. Duplomb, J.-D. Tigaud, N. Bonnin, G. Freyer, B. You - EMC – Gynecology - Elsevier Masson SAS. All *Rights reserved - © 2021.*

[5]**Methods of exploration of ovarian function**- V. Grouthier, M. Leban, A. Bachelot - EMC - Endocrinology-Nutrition - Elsevier Masson SAS. All *rights reserved - © 2021.*

[6]**Ovarian tumors - French College of Pathologists (CoPath)**– © UMVF - Francophone Virtual Medical University -2013.

[7]**Epidemiology of ovarian tumors**-J.-L. Brun, B. Boubli, AJ Sasco - EMC - Gynecology - Elsevier Masson SAS. All rights reserved-© 2012.

[8] Cancer Registry of the National Institute of Oncology 2008 Rabat Morocco.

[9]Malignant neoplasm, malignant disease of lymphatic tissue or **hematopoietic ovarian cancer**-Doctor's guides and lists of acts and services (LAP) drawn up in collaboration with the High Authority of Health (HAS) and the National Cancer Institute (INCa) – JANUARY 2010.

[10]Herbst AL. The epidemiology of ovarian carcinoma and the current status of tumor markers to detect disease. Am J Obstet Gynecol 1994;170:1099–105.

[11]Characterization of new pre-chemotherapy and post-chemotherapy cell lines for epithelial ovarian cancer - Thesis presented at the
Faculty of Medicine with a view to obtaining the Master's degree (M.Sc.) in molecular biology - by LuLin Wang - University of Montreal Faculty of medicine - April, 2011.

[12]The female genitalia – DR. SEDDIKI.Bougrassa.D - Service of Histology-Embryology, Faculty of Medicine, University of Oran - 2019, 2020.

[13]Ovarian cancer ovarian carcinoma, Cancer leagues in Switzerland: proximity, individual support, confidentiality and professionalism - Berne 3e revised and corrected edition - © 2020, 2011, 2008 .

[14]***Ovarian cancer or the murderer who whispers in women's ears***- Geneviève Ostiguy - PRACTICAL GUIDE TO GYNECO - ONCOLOGY FOR THE CLINICIAN - Le Médecin du Québec, volume 41, number 4, April 2006.

[15]RARE MALIGNANT TUMORS OF THE OVARIAN MANAGEMENT DIAGNOSTIC and THERAPEUTIC - Update 2016/2017 has been carried out by the Multidisciplinary Consultation Unit in Oncology gynecology' of the university plateau of Caen and by the Unit of Multidisciplinary consultation in 'Gynecological Oncology' of the plateau University of Rouen - Regional Cancer Network - June 2017.

[16]**Surgical strategies in borderline ovarian tumors** -p. Morice, E. Bentivegna, A. Maulard, G. Miailhe, M. Devouassoux-Shisheboran, C. Genestie, S. Gouy - Elsevier Masson SAS. All rights *reserved.* -EMC - Surgical techniques - Gynecology - © 2018.

[17]**Surgery for malignant epithelial tumors of the ovary**- E. Bentivegna, S. Gouy, A. Maulard, G. Miailhe, P. Morice - Elsevier Masson SAS. All rights *reserved* -EMC - Surgical techniques - Gynecology -© 2017.

[18]Talerman A, Vang R. Germ cell tumors of the ovary. In: Kurman RJ, Ellenson LH, Ronnett BM, editors. Blaustein's pathology of the female genital tract. New York: Springer; 2011, p. 847–908.

[19]Griffiths TC, Parker LM, Fuller AF. Role of cytoreductive surgical treatment in the management of advanced ovarian cancer. Cancer Treat Rep 1979;63:235–40.

[20]Chi DS, Eisenhauer EL, Lang J, Huh J, Haddad L, Abu-Rustum NR. What is

the optimal goal of primary cytoreductive surgery for bulky stage IIIC epithelial ovarian carcinoma (EOC)? Gynecol Oncol 2006;103:559–64.

[21]Pignata S, Scambia G, Katsaros D, et al. Carboplatin plus paclitaxel once a week versus every 3 weeks in patients with advanced ovarian cancer (MITO-7): a randomised, multicenter, open-label, phase 3 trial. Lancet Oncol 2014;15:396–405.

[22]**Ovarian cancer: genetics, diagnosis, assessment, therapeutic strategy**- L. Dion, M. Mairé, S. Brousse, M. Joste, K. Nyangoh Timoh, F. Foucher, H. Sardain, S. Henno, J. Levêque, V. Lavoué - EMC - Gynecology - Elsevier