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Ovarian Cancer: Clinical, Therapeutic and Prognostic Aspects at the University Hospital Center of Conakry in Guinea

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Abstract

Background: Ovarian cancer is the seventh most common cancer in women in the world and is the leading cause of death among gynecological cancers. **Objective:** The objective of this study was to describe the clinical, therapeutic and prognostic aspects of ovarian cancer in the both Gynecology-Obstetrics departments Donka and Ignace Deen of the Conakry University Hospital. **Methods:** This was a retrospective, descriptive study lasting 12 years from January 1, 2011 to December 31, 2022, covering the files of patients treated for ovarian cancer in the both Gynecology-Obstetrics departments Donka and Ignace Deen. The study focused on the epidemiological, clinical, histological and therapeutic aspects of the disease. **Results:** In total, 135 files of patients with ovarian cancer were collected out of the 3821 files of gynecological pathologies recorded in the two departments during the study period, either a frequency of 3.5%. Among gynecological and breast cancers, ovarian cancer represented 9.1%. The average age of the patients was 46.3± 17.8 years and the average parity was 4 ± 3. The revealing clinical signs were dominated by pelvic pain (92.6%) and increased abdominal volume (53.3%). The diagnosis of the disease was made mainly at stages III and IV (71.9%). The most common histological type was serous papillary adenocarcinoma (57.0%). Exclusive surgical treatment was performed in 8.1% of patients, surgery combined with chemotherapy in 63.0% of patients and exclusive chemotherapy in 11.1% of patients. After an average follow-up of 42 months, 29 patients out of the 96 operated on were alive (30.2%), 51 had died (53.1%) and 16 patients were lost to follow-up (16.7%). **Conclusion:** Ovarian cancer is the third most common

cancer in both departments. Diagnosis is often late and the prognosis is poor.

1. Introduction

Globally, ovarian cancer is the seventh most common cancer in women [1] and accounts for approximately 239,000 new cases each year worldwide [2]. In France, it is estimated that there are around 4000 new cases of ovarian cancer per year [3]. In Morocco, ovarian cancer constitutes a real public health problem. The cancer registries of Rabat and Casablanca place this cancer in 4th and 5th place among the most common cancers in women with a standardized incidence estimated at 5.2 and 5.3 per 100.000 respectively [4]. In Yaoundé in Cameroon, ovarian cancer represents 10.75% of gynecological and breast cancers [5]. In Ivory Coast, its standardized incidence is 3.6 per 100,000 women [6]. Genetic factors are involved in the genesis of ovarian cancer because 5 to 10% of this cancer occurs in a context of genetic predisposition [7]. Ovarian cancer presents a significant histological variety with a predominance of epithelial types [5] [8] [9] [10]. Due to its silent nature and vague symptoms, the diagnosis is made in the majority of cases at an advanced stage of the disease [7] [11]. This diagnostic delay makes treatment difficult and the prognosis poor with more than 152,000 deaths each year worldwide [8] [10]. Ovarian cancer represents the fourth leading cause of female cancer deaths after breast cancer, colon cancer and lung cancer [12]. Among gynecological cancers, it constitutes the leading cause of death [4] [13]. It is a formidable cancer with an overall survival rate of no more than 40% at 5 years [1] [3]. A woman's lifetime risk of developing ovarian cancer is 1 in 75, and that of dying from the disease is 1 in 1004. In order to improve the prognosis of patients through early treatment, systematic screening methods including CA 125 measurement and endovaginal ultrasound were proposed but the results were disappointing (10). In Guinea, only a few studies have focused on this pathology, hence the idea of this study, the objective of which was to describe the clinical, therapeutic and prognostic aspects of ovarian cancer in the both Gynecology-Obstetrics departments Donka and Ignace Deen from the University Hospital Center of Conakry.

2. Methods

This was a retrospective study of descriptive type lasting 12 years from January 1, 2011 to December 31, 2022 covering the files of patients treated for ovarian cancer in the both Gynecology-Obstetrics departments Donka and Ignace Deen.

The inclusion criteria for patient files were based on two key factors, namely

the completeness of the medical file. The presence of information related to epidemiological, therapeutic and prognostic aspects coupled with histological verification of ovarian cancer diagnosis. Patients whose files were incomplete or did not include the report of the histological examination were not included in the study in order to guarantee the accuracy and reliability of the data.

After a manual review of all the files of patients treated for a gynecological pathology in the two departments during the study period, all the files meeting the inclusion criteria were collected and examined for the study. The data collection process focused on comprehensive collection of information related to epidemiological, histological, therapeutic and prognostic aspects of ovarian cancer. Data were extracted from patients' medical records, including demographic details, clinical manifestations, histological findings, therapeutic approaches, and prognostic aspects.

Data analysis was carried out with SPSS version 21 software. We calculated proportions for qualitative variables and the mean, standard deviation and extremes for quantitative variables.

3. Ethics

Prior authorization from the head of this service was obtained, anonymity and confidentiality were respected.

4. Results

4.1. Epidemiological Aspect

Frequency of ovarian cancer:

Among the 3821 files of gynecological pathologies identified in the two departments during the study period, we recorded 135 cases of ovarian cancer, either a frequency of 3.5% (Figure 1).

Figure 2 shows that ovarian cancer ranked 3rd behind cervical and breast cancer. It accounted for 9.1% of all gynecological and breast cancers.
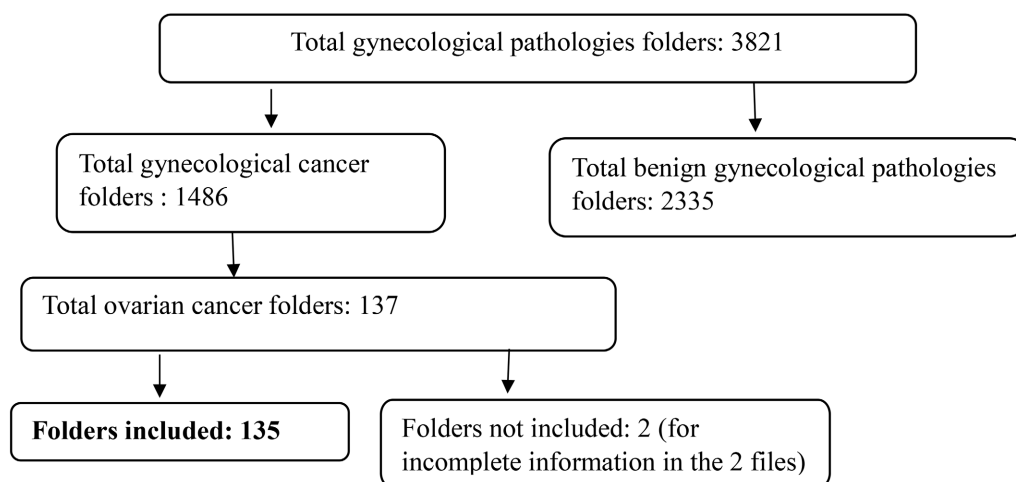

Figure 1. Flowchart.

We note three declines on this curve in 2012, 2015 and 2020 (**Figure 3**).

From **Table 1**, it appears that the average age of the patients was 46.3± 17.8 years with extremes of 12 and 17 years and women aged 15 to 49 were the most affected with a frequency of 52.6%. Concerning parity, women whose parity is between 4 and 6 were the most affected with a proportion of 32.6%.

4.2. Clinical Aspect

Regarding the clinical signs revealing ovarian cancer, **Table 2** shows that pelvic pain and increased abdominal volume were the most common with 92.6% and 53.3% respectively.

The majority of patients were treated at stage III of the disease with 15.6% at stage IIIa, 23.7% at stage IIIb and 14.1% at stage IIIc. Stage IV was noted in 18.5% of patients (**Table 3**).
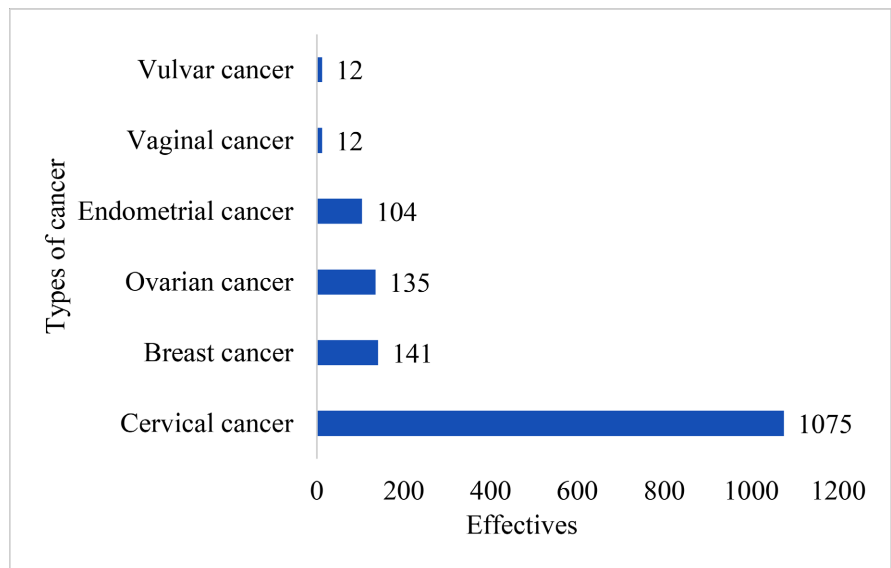

Figure 2. Frequency of ovarian cancer compared to other gynecological cancers.
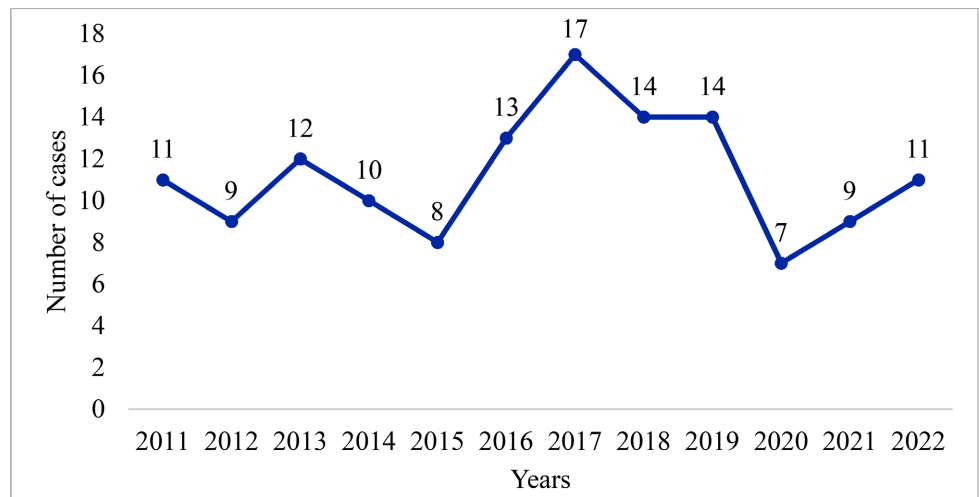

Figure 3. Distribution of ovarian cancer cases by year.

Table 1. Distribution of cases of ovarian cancer according to patient characteristics.

Patient characteristics	Effectives (n = 135)	Percentages
Age (years)		
<15	1	0.7
15 - 49	71	52.6
50 - 77	63	46.7
Average: 46.3 ± 17.8	Extremes: 12 et 77	
Parity		
0	28	20.7
1	10	7.4
2 - 3	24	17.8
4 - 6	44	32.6
≥7	29	21.5
Average: 4 ± 3	Extremes: 0 et 13	

Table 2. Distribution of cases of ovarian cancer according to revealing clinical signs.

Revealing clinical signs	Effectives	Percentages
Pelvic pain	125	92.6
Increased volume of the abdomen	72	53.3
Secondary amenorrhea	14	10.4
Genital hemorrhage (metrorrhagia or menorrhagia)	17	12.6
Dysuria	7	5.2
weight loss	17	12.6
Infertility	13	9.6
Total	**135**	**100.0**

Table 3. Distribution of ovarian cancer cases according to FIGO stage.

Tumor stage	Effectives	Percentages
Ic	3	2.2
Iia	16	11.9
IIc	19	14.1
IIIa	21	15.6
IIIb	32	23.7
IIIc	19	14.1
IV	25	18.5
Total	**135**	**100.0**

4.3. Histological Aspect

In Table 4, we note a clear predominance of serous papillary adenocarcinoma with 57.0% followed by clear cell adenocarcinoma and mucinous adenocarcinoma with 15.6% and 11.9% respectively.

4.4. Therapeutic and Prognostic Aspects

Exclusive surgical treatment was performed in 11 patients (8.1%), surgery combined with neoadjuvant and adjuvant chemotherapy in 14 patients (10.4%), surgery plus adjuvant chemotherapy in 71 patients (52.6%), exclusive chemotherapy in 15 patients (11.1%) and exclusive symptomatic care in 24 patients (17.8%). The chemotherapy protocol used was the Paclitaxel-Carboplatin combination.

Among the 96 patients operated on, 69 (71.9%) received a total hysterectomy plus bilateral adnexectomy, omentectomy, appendectomy and lymphadenectomy, 10 patients (10.4%) received a total hysterectomy plus bilateral adnexectomy and lymphadenectomy, 14 patients (14.6%) had an exclusive unilateral adnexectomy and 3 patients (3.1%) had an exclusive lumpectomy. The immediate postoperative course was simple in 82 patients (85.4%), complicated by parietal suppuration in 4 patients (4.2%) and anemia in 10 patients (10.4%). The adverse effects of chemotherapy were marked by digestive disorders 95.1%), neurological (34.8%), hematological (15.6%) and skin 14.4%). Thirty-nine cases of death were recorded before surgery, either 28.9%. All of these deaths were linked to the advanced stage of the disease (stage IV). After an average follow-up of 42 months, 29 patients out of the 96 operated on were alive (30.2%), 51 had died (53.1%) and 16 patients were lost to follow-up (16.7%).

5. Discussion

Ovarian cancer is the third gynecological cancer in both departments after cervical and breast cancer with a frequency of 3.5%. This frequency is lower than those found by Sandoz *et al.* [5] in Cameroon and Benhessou *et al.* [4] in Morocco

Table 4. Distribution of cases of ovarian cancer according to the histological type of the tumor.

Histological types	Effectives	Percentages
Serous papillary adenocarcinomas	77	57.0
Mucinous adenocarcinomas	16	11.9
Endometrioid adenocarcinoma	10	7.4
Clear cell adenocarcinomas	21	15.6
Dysgerminomas	7	5.2
Gynandroblastomas	3	2.2
Sarcomas	1	0.7
Total	**105**	**100,0**

who reported respectively that ovarian cancer represented 10.75% and 4% of gynecological cancers.

The average age of the patients was 46 years with extremes of 12 and 77 years. The average age found in this study is higher than that reported by Raherinantenaina *et al.* [10] in Madagascar which was 43 years. On the other hand, it is lower than the average age of 48.5 years reported by Sandoz *et al.* [5] in Cameroon, that of 48.3 years found by Benhessou *et al.* [4] in Morocco and that found by Dem *et al.* [9] in Senegal which was 49 years old. Global overall figures show peak incidence of ovarian cancer between ages 65 and 74 [5].

The 15 - 49 age group was the most affected with a frequency of 52.6%. Sandoz and al found in their study that 56.6% of patients were over 50 years old and Raherinantenaina *et al.* [10] reported that 53.2% of patients were over 45 years old.

The proportion of postmenopausal patients reported in this study (47.6%) is identical to that found by Sandoz *et al.* [5] in Cameroon which was 47%. On the other hand, it is lower than that of Benhessou *et al.* [4] who found 56.6% of menopausal patients during their study. Dem *et al.* [9] in Senegal found that more than half of the patients were menopausal at the time of diagnosis. All parities were affected by ovarian cancer with a predominance of multiparous and large multiparous women with a proportion of 32.6% and 21.5% respectively. The same observation was made in Morocco by Benhessou *et al.* [4] who reported 51.0% of multiparous patients and Sandoz *et al.* [5] in Cameroon with 43.3% of multiparous patients among ovarian cancer patients. Dem *et al.* [9] reported an average parity of 5 in patients with ovarian cancer.

The revealing signs were dominated by pelvic pain and the increase in volume of the patient's abdomen with 92.6% and 53.3% respectively. The same observation has been reported by several authors. This is the case of Benhessou *et al.* [4] in Morocco who reported 70.9% pelvic pain and 34.6% increase in abdominal volume, and Dem *et al.* [9] in Senegal who reported an increase in volume of the abdomen in 79.6% of cases and Sandoz *et al.* [5] in Cameroon with 56.7% of pelvic pain in patients seen for ovarian cancer. The diagnosis was made at an advanced stage of the disease with 53.4% diagnosed at stage III and 18.5% at stage IV of the disease. The same observation was made by Touré *et al.* [6] in Ivory Coast who reported 91.0% late diagnosis in cases of ovarian cancer, by Dem *et al.* [9] in Senegal with 29.9% and 21.4% stage III and stage IV respectively, by Raherinantenaina1 *et al.* [10] in Madagascar who found 79.0% of ovarian cancer diagnoses made at a late stage and by Argento *et al.* [7] who reported that 70% to 75% Diagnoses of ovarian cancer are only discovered at stage III of the disease. This delay in diagnosis is linked to the silent nature of the disease at its onset and the vague nature of its symptoms [7]. To this, we must add the fact that unlike other gynecological cancers which can be diagnosed at an early stage of the disease through effective screening for cervical and breast cancer or through signs of clinical call such as postmenopausal metrorrhagia for endometrial cancer, there is no effective screening test for ovarian cancer. Adenocarcinomas with a cumulative frequency of 91.9% were by far the most frequently encoun-

tered. This result corroborates the findings made by Sandoz *et al.* [5] in Cameroon, by Raherinantenaina1 *et al.* [10] in Madagascar and by Dem *et al.* [9] in Senegal who found respectively 93.3%, 93.5% and 100% adenocarcinoma of the ovary. Reid *et al.* [8] also found a predominance of epithelial tumors. The most commonly used therapeutic methods were surgery and chemotherapy, either alone or in combination. The only chemotherapy protocol used was the Paclitaxel-Carboplatin combination. According to Selle *et al.* [14] this protocol remains the standard of care for first-line chemotherapy. The surgical procedure performed ranged from a simple lumpectomy to total hysterectomy associated with bilateral adnexectomy, omentectomy and lymph node dissection. Lymph node dissection was only performed if lymphadenopathy was identified by imaging or palpation. This attitude is consistent with the recommendations of Classe *et al.* [15].

Surgery was often preceded and/or followed by chemotherapy. This result is identical to those reported by Benhessou *et al.* [4] in Morocco with 100% surgical treatment, by Touré *et al.* [6] in Ivory Coast with 82.2% surgery and chemotherapy and by Dem *et al.* [9] with 99.1% surgical treatment. The prognosis is generally poor with a high lethality and an overall survival at 42 months of 30.2%. This poor prognosis is largely linked to the fact that the diagnosis is made at an advanced stage of the disease for the majority of cases and to the limited therapeutic means in our work context. A similar observation was made by other African authors with an overall survival at 32 months of 28% reported by Touré *et al.* [6] and an overall survival at five years of 13.3% and 38.7% reported respectively by Dem *et al.* [9] and Raherinantenaina1 *et al.* [10]. This high mortality was also reported by Paul *et al.* [13] who found that ovarian cancer was the most common cause of death among all gynecological malignances.

In this study, due to lack of data in the files, we did not address the genetic aspects which play a role in the genesis of ovarian cancer and in the survival of patients affected by this disease.

6. Conclusion

Ovarian cancer is the third gynecological cancer in the department after cervical and breast cancer. Diagnosis in the majority of cases is at an advanced stage of the disease. The telltale signs are dominated by pelvic pain and increased volume of the patient's abdomen. Adenocarcinomas were the most common histological types. Therapeutic attitudes were dominated by surgery and chemotherapy. The prognosis is generally poor with high lethality and poor overall survival.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1]   Webb, P.M. and Jordan, S.J. (2017) Epidemiology of Epithelial Ovarian Cancer. *Best*

Practice & Research Clinical Obstetrics & Gynaecology, **41**, 3-14.
https://doi.org/10.1016/j.bpobgyn.2016.08.006

[2] Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., *et al.* (2015) Cancer Incidence and Mortality Worldwide: Sources, Methods and Major Patterns in GLOBOCAN 2012. *International Journal of Cancer*, **136**, 359-386.
https://doi.org/10.1002/ijc.29210

[3] Lansac, J. (2012) Ovarian Tumors. In: Elsevier, Masson, *Gynecology for the Practitioner*, 8th Edition, Elsevier, Masson, 189.

[4] Benhessou, M., Magloire, L., Boumba, A., Benchkrroun, M., Bouhya, S. and Mustapha, M. (2016) Epithelial Ovarian Cancer in Morocco: Epidemiological Analysis on a Series of 182 Cases at the Ibn Rochd University Hospital of Casablanca, Morocco. *International Journal of Innovation and Scientific Research*, **20**, 153-162.

[5] Sando, Z., Mboudou, E., Fouogue, T.J., Nganwa, G., Tchuendem, J., Essamé, J.L., *et al.* (2010) Clinical and Pathological Profile of Ovarian Cancers in Yaoundé, Cameroon. *Clinics in Mother and Child Health*, **7**, 1183-1188.
https://doi.org/10.4303/cmch/C101737

[6] Touré, M., Kouassi, K.K.Y., Oséni, M.A., Abba, O.F., Odo, B.A., Kagambega, A.G., *et al.* (2018) Difficulties in the Management of Epithelial Ovarian Carcinomas in Sub-Saharan Africa: Case of Ivory Coast. *Revue Internationale des Sciences Médicales d Abidjan*, **20**, 283-287.

[7] Argento, M., Hoffman, P. and Gauchez, A.S. (2008) Ovarian Cancer and the Prospects for Improving Early Diagnosis. *Immuno-Analyse & Biologie Specialisee*, **23**, 251-259.

[8] Reid, B.M., Permuth, J.B. and Sellers, T.A. (2017) Epidemiology of Ovarian Cancer: A Review. *Cancer Biology & Medicine*, **14**, 9-32.
https://doi.org/10.20892/j.issn.2095-3941.2016.0084

[9] Dem, A., Dieng, M.M., Ka, S., Gaye, P.M., Diouf, D. and Gaye-Fall, M.C. (2013) Diagnosis and Treatment of the Epithelial Ovarian Cancer at the West African Cancer Center of Dakar. *Bulletin du Cancer*, **100**, 155-160.
https://doi.org/10.1684/bdc.2013.1693

[10] Raherinantenaina, F., Rakotomena, S.D., Emile Hasiniatsy, N.R., Rakototiana, F.A., Rafaramino, F. and Rakoto Ratsimba, H.N. (2015) A Retrospective Study on Ovarian Cancer with a Median Follow-up of 42 Months. *The Pan African Medical Journal*, **20**, Article 211. https://doi.org/10.11604/pamj.2015.20.211.6113

[11] Pautier, P. (2022) Evolution of Adjuvant Treatments for Ovarian Cancer. *The Practitioner's Review*, **72**, 633-637.

[12] Trétarre, B., Remontet, L., Ménégoz, F., Mace-Lesec'h, J., Grosclaude, P., Buemi, A., *et al.* (2005) Ovarian Cancer: Incidence and Mortality in France. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, **34**, 154-161.
https://doi.org/10.1016/S0368-2315(05)82707-3

[13] Paul, P., Talukder, S., Sangma, M.A., Saha, P.L., Begum, M., Razi, A.Z., *et al.* (2017) Detection of Ovarian Tumor by Color Doppler Ultrasonography and CA-125. *Mymensingh Medical Journal*, **26**, 705-709.

[14] Selle, F., Alexandre, J., Prulhière, K., Kalbacher, E., Ray-Coquard, I., Leary, A., *et al.* (2021) First-Line Medical Treatment of High-Grade Epithelial Ovarian Cancer. *Bulletin du Cancer*, **108**, S5-S12. https://doi.org/10.1016/S0007-4551(21)00582-8

[15] Classe, J.M., Joly, F., Lécuru, F., Morice, P., Pomel, C., Selle, F., *et al.* (2021) Surgical Management of Epithelial Ovarian Cancer—First Line and First Relapse. *Bulletin du Cancer*, **108**, S13-S21. https://doi.org/10.1016/S0007-4551(21)00583-X