# Epidemiological Profile And Histological Aspects Of Ovarian Tumors: 53 Cases Observed At The Pasteur Center In Yaoundé –Cameroon

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## *Abstract*

**Background:**

Ovarian tumors are growths that develop in tissues, very often starting from cells on the surface of the ovary. These tumors represent one of the most difficult problems of clinical gynecological pathology because they have a non-specific symptomatology. Medical imaging and biological examinations do not always allow it to be preoperative between benign and malignancy. They represent the fifth cancer in women after that of the breast, colon, cervix and uterine body. It is estimated that the prevalence is 50/100,000 inhabitants in the age group of 55 to 65 years. This cancer remain formidable because the overall survival rate does not exceed 40% at 5 years and is the third leading cause of death in women in France[2].In Africa, decreasing fertility rate and increasing rate of ovulation induction drug could have increase the rate of this cancer and few studies have been published concerning this pathology.

**Objective:**

The aim of our study was to describe the epidemiological profile and histopathological aspects of these ovarian tumors diagnosed in the laboratory of the Pasteur Centre in the city of Yaoundé, Cameroon.

**Methodology:**

This was a retrospective and descriptive study that was carried out over a period of 8 years at Pasteur Center of Yaoundé.

**Results:**

The average age was 35.9 years with extremes of 6 to 60 years old. Among those tumors 49.05% were benign, 47.16% were malignant and 3.7% were borderline. Epithelial tumors (43.3%) were the most commonly represented tumors and among them 60% were malignant. The mean age for epithelial cancer was 39.2 years whereas germ tumors were mostly found in young women as mature teratomas 18.8%.In young adult women, non-epithelial malignancies were represented by lymphomas (9.4%).

***Keywords—;*** *Ovarian tumors, Epidemiological profile, Histological aspects,Pasteur Center , Yaounde-Cameroon*

## I. INTRODUCTION

Ovarian tumors are growths that develop in tissues, very often starting from cells on the surface of the ovary. These tumors represent one of the most difficult problems of clinical gynecological pathology because they have a non-specific symptomatology.

Medical imaging and biological examinations do not always allow it to be preoperative between benign and malignancy. Indeed, in cystic forms, vegetations greater than 2 cm with irregular surface, wide implantation base, vascularized Doppler are suggestive of malignancy.

In Multilocular forms, whatever the method of study, the diagnosis of benignity or malignancy is often difficult [1]. Exeresis of the tumor mass in this context allows an anatomic pathological examination to remove this uncertainty and allows to better guide the case. This

problem is all the more important as it stapes a pathology whose frequency is increasing sharply. In fact there are 3,000 new cases in USA and Canada, and they represent the fifth cancer in women after that of the breast, colon, cervix and uterine body. The frequency is especially marked from the fifth decade and it is estimated that the prevalence is 50/100,000 inhabitants in the age group of 55 to 65 years. This cancer remain formidable because the overall survival rate does not exceed 40% at 5 years and is the third leading cause of death for women in France[2].

In Africa decreasing fertility rate and increasing rate of ovulation induction drug could have increase the rate of this cancer and few studies have been published concerning this pathology. The aim of our study was to describe the epidemiological profile and histopathological aspects of these ovarian tumors diagnosed in the laboratory of center Pasteur in the city of Yaoundé.

## II. METHODOLOGY

A retrospective and descriptive study was conducted at the pathological anatomy laboratory of the center Pasteur of Yaoundé over a period of 8 years.

An anonymous data collection sheet containing the socio demographic information of patients and with their histological tumors types was used .We recorded the sociodemographic data's from the registers and searched for archived slides and paraffin blocks. The cross sections were stained with haematin-eosin. A double blinded interpretation of the anonymous slides was performed. All collected data's were analyzed using the excel software. Variables of interest were age of patients and frequency of histological types.

## III RESULTS

### 1. Socio demographic characteristics

The Analysis of 53 diagnosed cases showed that the average age of our patients was 35.96 years old with extremes ranging from 6 to 60 years old (Fig 1).

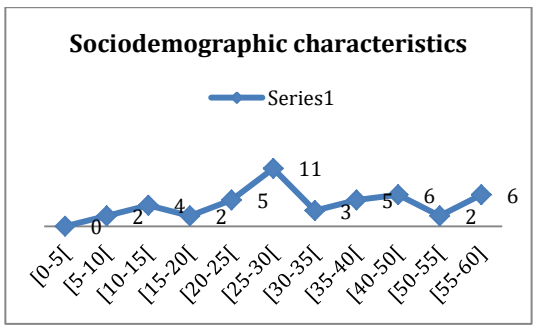


**Figure 1: Distribution of participants according to their ages**

### 2. Epidemiological profile

Epithelial tumors were the most common tumors (43.3%), among them; 15 or 15/23 were malignant and serious cystadenocarcinomas was the most represented (11%).The second most common tumor were the germinal tumors (24.5%),among them, mature teratomas were the most represented(76.9%). Meanwhile, Burkitt lymphoma (9.4%), was the most common malignant non-epithelial tumor (table 1).

**Table 1**: **Morphological Characteristics ovarian tumors**

| Histological group | Histological type | effective | frequency |
|---|---|---|---|
| **Epithelial tumors,** N=23 | Serious cystadenoma | 3 | 5.6% |
| | Borderline serious tumors | 2 | 3.7% |
| | Serious cystadenocarcinoma | 11 | 20.7% |
| | Mucinous cystadenoma | 3 | 5.6% |
| | Clear cell carcinoma | 1 | 1.8% |
| | Carcinoma endometroid | 2 | 3.7% |
| | Undifferenciated carcinoma | 1 | 1.8% |
| **Germinal tumors,** N=13 | | | |
| | Mature teratoma | 10 | 18.8% |
| | Chorio carcinoma | 1 | 1.8% |
| | dysgerminomas | 2 | 3.7% |
| **Sex cord tumors** (stromal tumors) N=10 | | | |
| | Granulosa tumors | 5 | 9.4% |
| | Fibro thecoma | 5 | 9.4% |
| **Undependent cell carcinoma** | | 2 | 3.7% |
| **Burkitt lymphomas** | | 5 | 9.4% |

Among the benign tumors, mature teratomas were the most frequent followed by fibro thecomas and granulosa cell tumors. Meanwhile among the malignant tumors, serious cystadenocarcinomas were the most frequent then followed by Burkitt lymphoma, (fig 2and 3)

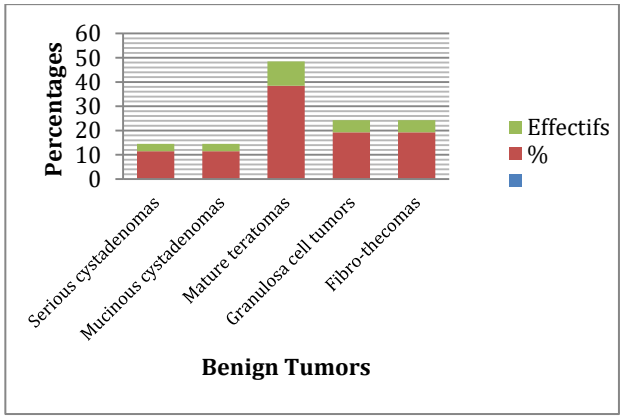


**Fig 2: Distribution of benign tumors**

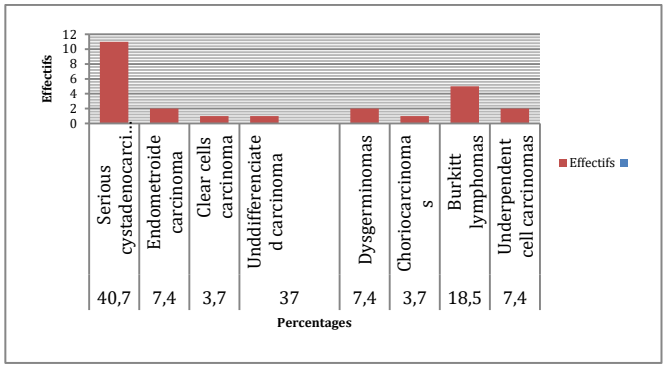


**Fig 3: Distribution of malignant tumors**

The mean age for epithelial cancer was 39.2; Burkitt lymphomas were the most frequent malignant of non- epithelial tumor on young women.

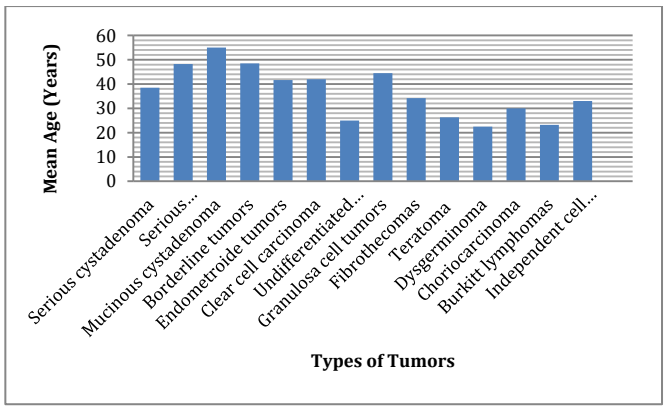


**Fig 4: Distribution of tumors by age group**

## III. Discussion

Ovarian tumors are therefore growths developed in the ovarian parenchyma; they can be benign, malignant or borderline. From this study, it appears that the average age of ovarian tumors was 35.96 years; .Our results are similar to those of Traoré *et. al* in Mali [4] who found 35,45 years as the mean age; but our results were considerably below those of Europeans range where the age's mean of ovarian tumors is in patients of above 60 years [5] ; thus , the low life expectancy in our regions may explain this situation. Histologically, we found 25 benign tumors meaning 47.16%, 26 malignant tumors meaning 49.05%, and 2 borderline tumors meaning 3.77%. Our results are much lower than those of the literature which state that 90% of ovarian tumors are benign. Those results may be biased due to the small size of our sample; borderline tumors represent 3.7% in our range. Those results are similar to those of Ben Houssana *et. Al* in Algeria with a 3.27% rate in their range [6].

Concerning benign tumors, mature teratomas were the most represented, about 18.86% and mean age of those tumors was 26.24 years old. Our results differ from those of T Darre *et al* in Mali [7] who found more benign epithelial tumors. The frequency of germ tumors appears to be lower in the black and Asian race than in Caucasian.

Ovarian cancer represents one of the most difficult problems of the gynecological pathology due to their histological polymorphism. This study shows that ovarian cancer represent 47.16% of ovarian tumors. Our results are much higher compared to data from the literature which shows a lesser rate; our results may be biased due to the difficult access to medical care, then all tumors are not diagnosed and the mean age of the appearance of these cancers depends on the type of the tumor. The mean age of epithelial cancers was 39.2 years; our results are similar to those of Odukogbe *et al* [8], who showed that more than 60% of their cases are 50 years old or younger; our results are below European range where the mean age of epithelial cancer appearing was 65 years. Epithelial cancers represented 15 cases or 60% of malignant tumors and 28.30% of ovarian tumors; our results are similar to those of JP Ndamda [9] on gynecological cancers, which found 68% of epithelial cancers. These figures were lower compared to those obtained in Europe with 90% of epithelial cancers. However high parity in Cameroon may also play in favor of a lower incidence of ovarian epithelial tumors. Indeed, many studies highlight the protective effect of multiparty on epithelial tumors. In the same vein, many studies showed that taking oral contraceptive especially for more than 3 years has protective effect. It seems established that the risk of ovarian cancer was correlated with the duration of ovulations. Successive ovulation would cause lesions on the surface of the ovarian epithelium that would promote it

malignant transformation .Cramer and Welch [10] suggested that the first step of this process would be the transformation of inclusive cysts by invagination of the stromal surface epithelium, which would promote contact between epithelial cells and cells secreting steroid hormones. However this fact was questioned by a study made in Islamabad by Zhara [11] where there was equally a high parity. This work revealed that the increase in parity did not decrease the risk of ovarian cancer. Other studies suggested an interaction of numerous factors (Fat diet exposure to toxins) [12].

The most common malignant tumors in young subjects are lymphomas (9.4%) and the mean age of the appearance of these lymphomas was 23,2 years. This figure was close to a study done in Nigeria where Burkitt lymphomas were the most frequent malignant of non-epithelial tumor on young women. Thus, ovarian lymphomas, rare in European, range are more frequent in the young African woman [13].

## Conclusion

At the end of this work we can conclude that benign tumors represented 49.05% and malignant tumors were 47.16% and borderline tumors were 3.7%.Among the benign tumors germinal cell tumors were the most represented and mature teratomas account for 38.4% of benign tumors and was most represented in the young women. The malignant epithelial tumors were the more represented with 60% of malignant tumors and the mean age for those tumors was 39.2 years. Histological study is necessary to be able to carry out good diagnosis and then improve the management of these diseases.

**IV. ACKOWLEDGEMENTS**

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**Contributions:** All authors' contributed in the conception, realization and the writing of the manuscript. Procedures.

**Conflict of Interest:** Authors declared no conflict of interest.

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