

## GYNECOLOGICAL CANCER PROFILE IN THE YAOUNDE POPULATION, CAMEROON.

ENOW-OROCK G.<sup>1</sup>; MBU R.<sup>2</sup>; NGOWE N.M.<sup>1</sup>; TABUNG F.K.<sup>1</sup>; MBOUDOU E.<sup>2</sup>; NDOM P.<sup>1</sup>; NKELE N.<sup>3</sup>; TAKANG W.<sup>4</sup>; ESSAME-OYONO J. L.<sup>5</sup>; DOH A.<sup>2</sup>

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### SUMMARY:

This population-based retrospective study was carried out in the Yaounde Population Cancer Registry (YPCR) at the General Hospital Yaounde, Cameroon. The aim was to find out the socio-economic, epidemiologic, anatomic and pathologic profile of patients with gynecological cancers in the Yaounde population. The database of the registry was reviewed between January 1, 2004 and June 30 2005 (18 months). All cases of microscopically confirmed gynecological cancers registered within this period were recruited. Defined as gynecological cancers are cancers of the breast (in women), ovary, uterine corpus, vulva, vagina, and cervix.

The results showed that gynecological cancers have a monthly incidence of 30 cases. Whereas cancers of the placenta, vagina, breast, and ovary affect younger adults, endometrial, vulval and cervical cancers predominate in the elderly. 58% of the women were aged between 34-54 years. Most patients are from the West (30.55%), Centre (28.90%) and Littoral (10.00%) provinces respectively. The commonest cancers are the breast (48.12%), cervix (40.18%), and ovary (5.82%) at respective average ages of 42.80 years (19-76 years range), 53.08 years (24-78 years range) and 44.22 years (9-75 years range). Cancers of the uterine corpus are rare. Most patients were illiterate, of low to average socio-economic status, presenting at advanced stage of disease. Cancer of the breast is common in the upper social class; while malignancies of the cervix, endometrium, and vagina predominate in the low and middle classes. Only 17.5% of our patients had been previously screened for any form of cancer prior to present disease. We had no data on family history of cancer.

We recommend intensive public health education and sensitization of women on primary and secondary prevention especially for cervical and breast cancers. Gynaecological services should be vulgarized and existing ones improved with defined referral and counter referral systems. Further in-depth studies to document trends on cancer survival are recommended.

**KEY WORDS:** Gynecological - Cancer - Yaounde - Population.

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## PROFIL DES CANCERS GYNECOLOGIQUES A YAOUNDE, CAMEROUN.

### RESUME:

Cette étude rétrospective était menée dans le registre des cancers sur la population de Yaoundé situé au sein de l'Hôpital Général de Yaoundé, Cameroun. Elle avait pour but de dresser le profil socio-économique, épidémiologique, anatomique et pathologique des malades souffrant des cancers gynécologiques pendant 18 mois, allant du 1<sup>er</sup> Janvier 2004 au 30 Juin 2005. Tous les cas des cancers gynécologiques confirmés microscopiquement étaient retenus. Le sein (chez la femme), le col et corps utérin, ovaire, la vulve et le vagin sont les organes impliqués.

Le résultat montre une incidence mensuelle de 30 cas. Les cancers du placenta, du sein, du vagin et ovaire touchent les jeunes adultes, tandis que ceux de l'endomètre, du col et de la vulve intéressent les femmes d'âge avancé. 58% des femmes ont entre 34 et 54 ans. La plupart de nos malades sont originaire de provinces de l'Ouest (30,55%), du Centre (28,90%), et du Littoral (10%), mais vivent à Yaounde. Les organes les plus touchés sont le sein (48,12%), col (40,18%), et ovaire (5,82%) respectivement à un âge moyen de 42.80 ans (tranche de 19-76 ans), 53,08 ans (tranche de 24-78 ans), et 44,22 ans (tranche de 9-75 ans). Les cancers du corps utérin sont rares.

La majorité des patientes sont des femmes camerounaises, analphabètes avec un niveau socio-économique bas, se présentant le plus souvent à un stade de maladie avancé. Le cancer du sein est plus fréquent chez les femmes de classe sociale élevée tandis que ceux du col, endomètre et vagin sont prédominants dans les classes basses et moyennes. 17.5% de nos malades avaient antérieurement eu des examens de dépistage antécédent. L'histoire familiale de cancers n'avait pas figuré dans nos données. Une intensification de la sensibilisation en santé publique pour la prévention primaire et secondaire, surtout pour les cancers du col et sein est recommandée. Une vulgarisation des services de gynécologique est prônée avec une amélioration de ceux qui existent, ainsi qu'un système de référence et contre référence des patientes. Nous recommandons des études approfondies pour élaborer les tendances de survies des divers cancers.

**MOTS CLES:** Cancers - Gynécologique - Population - Yaounde.

<sup>1</sup> Yaounde Cancer Registry, General Hospital Yaounde, Cameroon.

<sup>2</sup> Department of Obstetrics and Gynecology Faculty of Medicine and Biomedical Sciences University of Yaounde I, Cameroon.

<sup>3</sup> Gyneco-Obstetrics and Pediatric Hospital, Yaounde, Cameroon.

<sup>4</sup> University Hospital Centre, Yaounde, Cameroon.

<sup>5</sup> Department of Pathology, Faculty of Medicine and Biomedical Sciences, University of Yaounde I, Cameroon.

Correspondences: Enow-Orock G., Yaounde Cancer Registry, General Hospital Yaounde, B.P. 5408, Cameroon. E-Mail: enowrock24@yahoo.com

### I- INTRODUCTION

Cameroon, situated in Central Africa, has an estimated population of 15.4 million (2004) and a surface area of 475.440 square kilometers. Sixty percent of the total population lives in rural areas. Forty six percent of the population is be

low 15 years of age, 50% between 15-64 years and 4% above 65 years. The male to female ratio is 0.97:1. The last official census was carried out in 1987. The annual population growth rate is currently estimated to be 2.87%. Some of the social and health indices (2004) are as follows: literacy rate 59.5; crude birth rate 38.2; infant mortality rate 77.0; crude death rate 10.1; life expectancy 56.7 in males and 61.3 in females; and the physician population ratio is 1:6500. The maternal mortality rate is about 580/100.000. Majority of the population is poor.

Yaoundé, the political capital, situated in the Centre province, has an estimated 2005 population of about 698.055 males and 726.544 females. This population is, like in most developing countries young. It is also cosmopolitan, comprising all classes of persons from the various ethnic groups of the nation and from all works of life, ranging from peasant farmer to professional. By the registry criteria, a Yaounde resident is considered to have spent at least six months in the city.

Statistics on hospital-managed diseases in our community is usually inaccurate since many patients end up at alternative medical services and are never seen by a physician. This loss was estimated by MBAKOP et al, to be up to 60% [1]. Except for some information on relative frequencies of different cancers in selected series, the epidemiology of cancer in Cameroon is relatively unknown [2].

Though there are no reliable data on the incidence and cancer pattern, it is being increasingly recognized as an emerging public health problem in our environment [3]. It is in this regard that a National Committee consisting of policy makers, administrators, medical personnel and ordinary citizens, was re-organized by the Government in 2002, with the responsibility to formulate and implement a cancer control programme. The YPCR, a component of this program, is a structure for documenting cancer pattern, trends, cancer surveillance and management outcome in the population. It is also used for planning of long term health strategies in the community [4]. It is a major step forward in the fight against cancer in Cameroon.

Gynecological cancers are common in Cameroon and have an important socio-economic impact in the society. Earlier researchers had estimated them to constitute about 40% of all cancers in the entire

population [1]. These cancers which seem to be on the rise in Cameroon had existed since ancestral period but the diagnosis was underestimated due to lack of diagnostic facilities, qualified personnel and material. DOH et al, attributed this to change in lifestyle, urbanization, smoking and promiscuity [5]. The objective of this population-based study was to find out the epidemiologic, anatomic and socio-economic characteristics of patients with gynecological cancers in the Yaoundé population, using the YCR as source of data. Population-based statistics have always been shown to be more reflective of the true cancer burden in any community. To the best of our knowledge, this is the first of such study on gynecological cancers in our environment.

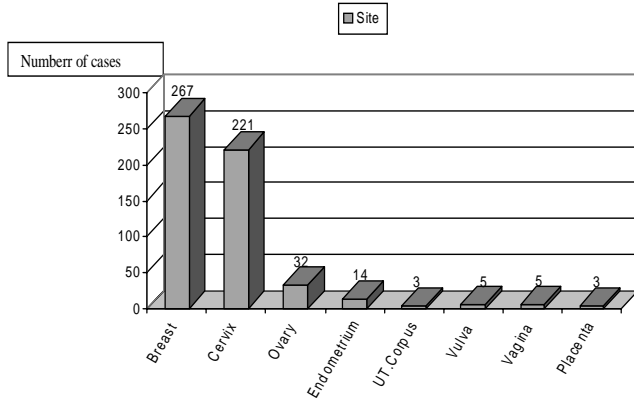
With increasing control of infectious diseases due to vaccinations and appropriate anti biotherapy and increase in life expectancy, cancer is fast becoming a public health problem in most developing countries, including Cameroon [5].

## II- MATERIALS AND METHODS

The database of the YPCR was reviewed from January 1 2004 to June 30 2005, a period of 18 months. All reported incident microscopically-verified cases of gynecological cancer involving the breast (female), cervix, ovary, endometrium, uterine corpus, placenta, vulva or vagina were recruited. Cases diagnosed on the basis of clinical and/or para clinical investigations alone were rejected. Data concerning the anatomic-pathology, epidemiology and social indices of the cases were recorded. In this study, we computed the social class from two variables- profession and educational level. Various combinations and permutations were made from these variables in consideration of some assumptions. We assumed for example, that a relatively stable income-generating profession (professional, business) associated with a university education, merited a high social status while a moderate income profession (office, military, teacher, housewife etc) associated with an average education (secondary, post-secondary) was of average or moderate social status. On the other hand, an unemployed woman or farmer with a primary or no formal education was considered to be of low social class.

### III- RESULTS

**Figure 1-** Cumulative Incidence of Gynecological Cancers in the Yaounde Population January 2004-June 2005. (Source: Yaoundé Cancer Registry).



**Table I-** Age profile (in years) of patients with gynecological cancer.

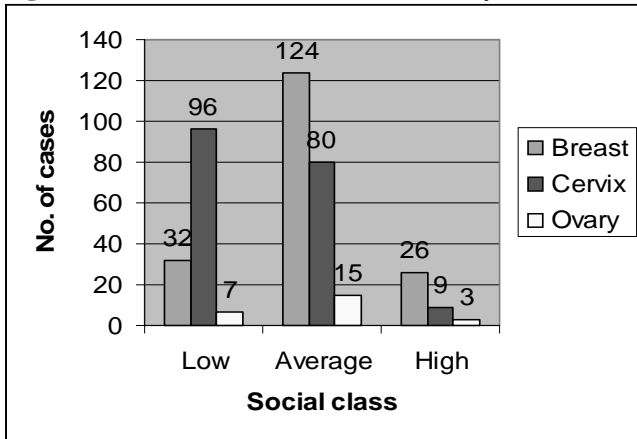
| Site           | Age range | Mean age | Median |
|----------------|-----------|----------|--------|
| Breast         | 19-76     | 43.44    | 53.4   |
| Cervix         | 24-78     | 51.65    | 47.2   |
| Ovary          | 9-72      | 44.22    | 43.5   |
| Uterine Corpus | 44-62     | 49.66    | 43     |
| Endometrium    | 46-79     | 59.36    | 61     |
| Placenta       | 31-35     | 33.33    | 34     |
| Vulva          | 42-67     | 53.60    | 55.5   |
| Vagina         | <1-60     | 40.80    | 54     |

**Table II-** Distribution of cases by age group (N=550).

| Site/Age group | 0-14     | 15-24    | 25-34     | 35-44      | 45-54      | 55-64     |
|----------------|----------|----------|-----------|------------|------------|-----------|
| Breast         | 0        | 3        | 43        | 99         | 75         | 21        |
| Cervix         | 0        | 2        | 8         | 59         | 52         | 62        |
| Ovary          | 2        | 3        | 2         | 9          | 12         | 2         |
| Ut. corpus     | 0        | 0        | 0         | 1          | 1          | 1         |
| Endometrium    | 0        | 0        | 0         | 0          | 4          | 5         |
| Placenta       | 0        | 0        | 2         | 1          | 0          | 0         |
| Vulva          | 0        | 0        | 0         | 1          | 2          | 1         |
| Vagina         | 1        | 0        | 0         | 1          | 2          | 1         |
| <b>Total</b>   | <b>3</b> | <b>8</b> | <b>55</b> | <b>171</b> | <b>148</b> | <b>93</b> |

**Table III-** Clinical extent of disease at diagnosis (N=550).

| Site         | Localized  | Direct extension | Lymph node | Distant met: |
|--------------|------------|------------------|------------|--------------|
| Breast       | 95         | 4                | 78         | 53           |
| Cervix       | 120        | 9                | 47         | 22           |
| Ovary        | 10         | 8                | 5          | 7            |
| Uterine corp | 3          | -                | -          | -            |
| Endom.       | 8          | 1                | -          | 2            |
| Placenta     | -          | -                | -          | 3            |
| Vulva        | 4          | -                | -          | -            |
| Vagina       | 3          | 1                | -          | -            |
| <b>Total</b> | <b>243</b> | <b>23</b>        | <b>130</b> | <b>87</b>    |

**Figure 2-** Distribution of main cancers by social class.**Table IV-** Cervical cancer age by histological type.

*Sq*=squamous, *NOS*=not otherwise stated, *Ca*=carcinoma, *LCNK*=large cell non-keratinising, *SCNK*=small cell non-keratinising, *CC*=clear cell, *KK*=keratinising

**Table V-** Breast cancer age by histological type.

| Morphology           | No. of cases | %          | Av. age      | Age range    |
|----------------------|--------------|------------|--------------|--------------|
| Infiltrating duct ca | 214          | 80.15      | 45.13        | 19-75        |
| Medullary ca         | 4            | 1.50       | 39.75        | 34-53        |
| Lobular ca           | 15           | 5.62       | 44.46        | 33-67        |
| Duct and lob. ca     | 1            | 0.37       | 43           | 43           |
| Mucinous ca          | 3            | 1.12       | 53.63        | 37-73        |
| IDPA(inv)            | 13           | 4.87       | 38.33        | 34-47        |
| Inflammatory ca      | 6            | 2.25       | 39           | 32-44        |
| Sq cell ca           | 5            | 1.87       | 34           | 20-48        |
| Paget's disease      | 3            | 1.12       | 62.67        | 56-68        |
| Comedo ca            | 2            | 0.75       | 44.5         | 44-45        |
| Anaplastic ca        | 1            | 0.37       | 35           | 35           |
| <b>TOTAL</b>         | <b>267</b>   | <b>100</b> | <b>43.44</b> | <b>19-75</b> |

## IV- DISCUSSION

550 new cases of various gynecological cancers were diagnosed in the Yaounde population (Cameroon) in 18 months giving a monthly incidence of 30. 12,000 new cases annually are estimated for the entire nation by the National Committee for Fight against Cancer in Cameroon [5]. Our patients were aged <1 to 79 years. The youngest patient in our series who was less than 1 year old presented with a vaginal rhabdomyosarcoma. This tumour has been reported to be common in teenagers [6]. Most young patients in this study, however, had Burkitt's lymphoma of the ovary. The average age of patients with this lesion in our series is 11.8 years, similar to earlier studies that reported it to be the leading cancer amongst children in Cameroon [6]. Generally, childhood gynecological cancers in our study involve only the ovary and vagina (see Table II). Some of the common cancers involve organs that are amenable to screening. 94.55% of the disease involved the three main organs- breast (48.55%), cervix (40.18%) and ovary (5.82%) (Figure 1). This trend is likely to increase with increasing life expectancy in the population. On the other hand, cancers of the vagina (0.91%), vulva (0.91%), placenta (0.55%) and uterine corpus (mesenchymal) (0.55%) and endometrial (2.55%) are rare, though some reports cite mesenchymal and endometrial tumours to be common in blacks than whites [6].

Like in previous reports [6] we found cancer of the placenta, vagina, breast and ovary to be commoner in young adults. This is unlike, endometrial, vulval and cervical cancers predominant mainly in elderly women. Various workers [ 8, 9 ] had reported a similar pattern. From our observation, choriocarcinoma is the commonest tumour with distant metastasis at the time of diagnosis (100%). Paget's disease of the breast is the commonest histological type amongst elderly women, while medullary and inflammatory breast cancers are common in younger patients. With regard to extent of disease at diagnosis, leiomyosarcoma of the uterine corpus is the most restricted tumour to the primary organ at diagnosis (100%). Mesenchymal tumours of the corpus uteri have been known for their indolent growth and late metastasis [10].

It is known that social factors influence disease, especially cancer [11].

We observed that cancer of the breast is predominantly a disease of the upper social class while that of the vulva, ovary, cervix, endometrium, and vagina predominate in the lower and middle class. On the other hand, cancers of the placenta and uterus have no social class predilection. Our findings are similar to others [12,13].

Cancers of the breast, followed by the ovary are the commonest malignancies amongst students from our study, while cervical cancer is the commonest amongst farmers and housewives. Commensurate with its predilection for high social class, breast carcinoma is commonest amongst professionals, and duct carcinoma of the breast is not only the commonest histological type of breast malignancy, but cuts across all the professions. Majority of our patients were illiterate, only 18.18% had more than a secondary education.

Most of our patients were cameroonians (547/550), while only 3 were foreigners. Of these later, 2 were from other African countries while one was a white European. Ethnically, more than half of the cases were from the West (168) and Centre provinces (159). The Littoral, North-West and South provinces followed with 55, 45, and 30 cases respectively. We do not know if this finding is incidental or of any epidemiologic significance. No study on ethnic predisposition to gynecological cancer of any type has been previously carried out in our environment. It is obvious that bias factors here would include ethnic distribution of the Yaounde population, ethnic beliefs and accessibility to medical facilities in Yaoundé. Majority of our patients (86.5%) had never had any form of cancer screening before the current disease. This is to be expected as cancer is common in low resource, illiterate patients who are usually unlikely to go for screening [4]. Our data unfortunately does not include any family history of cancer, a parameter that would have been very useful for long term analysis.

## 1. Breast

Invasive breast cancer is the most common carcinoma in women and has been shown to constitute about 22% of all female cancers [14]. This is similar to the 28.4% rate found in this series. The risk of the disease has been increasing until the early 1980s in both developed and developing countries and continues to increase in particular in the developing countries [15]. Its incidence increases rapidly with age, rising steeply up to menopausal age and less rapidly or not at all afterwards. An age-standardized rate adjusted to the standard world population (ASRW) of 35.7 per 100.000 was found for this cancer in the Yaoundé population. This rate is higher than that reported in most African countries-Harare in Zimbabwe 20.3, Kyadondo county in Uganda 20.7, but similar to the rates in Asia-Hiroshima, Japan 36.5 and Europe-Lithuania 37.7 [16].

Breast cancer has always been reported as the leading cancer in Cameroon [1] and elsewhere.

In either case, it is reported as a predominantly female disease. The male/female ratio in the Yaounde population for this cancer is 1:27 and the most affected

age group is 35-54 years (Table II). This age group is always reported as most vulnerable for breast malignancy [15]. The upper outer quadrant is usually considered to be the commonest anatomic site affected by breast cancer [17]. We are unable to determine this finding in our study because in 266/276 (96.38%) of our cases, the quadrant of the breast involved was not stated. Some clinicians usually fail to precise the breast quadrant affected by disease.

In spite of its anatomic accessibility, the breast is from our study, the organ with highest rate of distant metastases at diagnosis.

We analyzed the various histological types of breast cancer as follows:

- **Duct carcinoma:** This was the commonest histological type. There were 214 cases, comprising 80.15% of all cases of breast cancer in our series. The Patients had an average age of about 45 years (Table V). It is the commonest histological type amongst housewives and office workers.

- **Lobular carcinoma:** There were 15 cases aged 33-67 years at an average of 45.3 years. 2/15 had a primary education, 3/15 were illiterate, 2/15 had a secondary education, 5/15 had more than secondary education. In 1 case the educational level was unknown.

- **Medullary carcinoma:** 4 cases aged 34-53 years with an average of 39.75 years were involved. 50% had an above secondary education, 25% had no education at all and the educational status was not known in another 25%. Professionally, 25% were respectively professionals, office workers, farmers and of unknown status. In 75% of these patients, the disease was localized at diagnosis while regional lymph node metastasis was observed in 25%.

- **Inflammatory carcinoma:** There were 6 cases aged 32-44 years with an average of 39.6 years. 16.67% of the cases were illiterate, 33.33% had an above secondary education and the level of education was unknown in 33.33%. 2 women were housewives, one was a technician and the profession of 2 was not known. In 2 cases, the extent of disease was unknown, 1 was localized while 2 had regional lymph node involvement.

- **Intraductal papillary adenocarcinoma (with invasion):** There were 13 cases aged 34- 47 years with an average of 34.33 years. In all cases the tumour was localized. 3 of the cases were office workers, 5 were housewives, 2 were farmers and 3 were professionals.

- **Paget's disease:** This histological type was more common in elderly women. The 3 patients were aged 56, 64 and 68 years; illiterate and of low social class. At diagnosis, 2 cases had distant metastasis while the disease extent of 1 case could not be determined.

- **Duct and lobular carcinoma:** This unique case of multiple primary cancers in our series was an illiterate farmer of low social class, aged 42, with a localized tumour at diagnosis.

- **Others:** Squamous cell, comedo, mucinous and anaplastic carcinomas were rare with a single patient in each case.

## 2. Cervix

An Age-standardized rate (ASRW) of 29.7, similar to the 29.8 of Mali, but less than the 55.0 of Zimbabwe and more than the 12.5 reported in Algiers [16] was found in our series.

- **Squamous (epidermoid) cell carcinoma:** There were 193 cases (87.33% of all cervical malignancy). The commonest type was squamous cell carcinoma (91.71%). 44.56% were housewives, 12.43%, office workers and 30.05% were farmers.

- **Adenocarcinoma:** There were 12 patients (5.43%) with an average age of 51.1 years, a median of 44 years, ranging from 36-85 years. This histological type was more predominant in the endocervix (62.5%) than any other anatomic site of the cervix.

The patients were mainly housewives (58.33%), office workers (33.33%) and farmers (8.33%). The highest level of education amongst these patients was secondary. Concerning the extent of disease, majority of cases were localized to the cervix (7/12) or 58.33%, while in 25% there was direct extension and regional lymph node involvement. No case of distant metastasis was recorded. In another 16.67%, the extent of disease could not be determined.

- **Adenosquamous carcinoma:** 4 patients had this diagnosis (1.8%). They were aged 43-57 years with an average of 47.25 years and a median of 44.5 years. Half of them (50%) were office workers and the other half were housewives. Their educational profile showed that 50.0% were illiterate or had a primary level of education, while another 50.0% had a post secondary education. In 2 patients the disease was localized. Only one patient had a distant metastasis and another 1 had an unknown extent of disease.

## 3. Vulva

5 patients had cancer involving the vulva giving a rate of 0.91% of all gynecological malignancies seen in

our series. This is lower than the 4% rate reported by DOH et al [18] in their series of 38 cases in 10 years. Our age range is 42-67 years at an average of 53.6 years and a median of 55.5 years. This is similar to DOH et al [18], who found an average age of 56.7 years in CHU Yaounde.

Like in other reports, we found that a squamous cell carcinoma is the most common malignant tumour of the vulva and occurs most frequently in the older age group [18]. 80% of the cases were squamous cell carcinoma while one case (20%) of adenocarcinoma was reported. 40% of these patients were illiterate, 20% had a secondary education, while 40% had a university education. In terms of occupation, 40% were office workers, 40% were farmers and 20% were professionals. The majority of cases (80%) were localized to the organ. The observation that cancer of the vulva is indolent with late metastasis had been reported by DOH et al [18]. In one case in our series, the extent of disease was not indicated. No case of distant metastasis originating from this site was registered. In 60% of cases, the labia majora was involved while the site was not precise in the rest of cases. Our ASRW of 0.5 is similar to Quito, Ecuador and Karunagappally, India [16].

## 4. Vagina

There were 5 patients with cancer involving this organ. The age range of patients was <1-60 years at an average of 40.8 years (58 years average age without the juvenile case) and a median of 54 years. Morphologically, the cases were a squamous cell carcinoma in 80% of cases and rhabdomyosarcoma in 20% (involving the youngest patient in our series, aged less than one year). This is what DAW[19] and HERBST [20] working independently had found. They reported that squamous cell carcinoma comprises up to 85% of vaginal carcinomas and accounts for 1-2% of all malignant tumours of the female genital tract, at a mean age of 60 years. 80% of our patients were illiterate while 40% were housewives and 20% were farmers, teachers or without any profession. The clinical extent showed 60% localized to the organ (20% carcinoma in situ) and 20% of direct extension to neighboring organs. Our ASRW of 0.5 is similar to the rates found in Uganda (0.5) and Algiers (0.6) [16].

## 5. Corpus uteri (mesenchymal)

All 3 cases of cancer of this organ involved the myometrium. The morphology was leiomyosarcoma that was localized to the organ in all cases at the time of diagnosis. The age range was 44-62 years with an average of 49.66 years and a median of 43 years. The patients respectively were either illiterate, had a primary or post-secondary education and their occupation was housewife, business and teacher respectively. The 2.3 ASRW found in this series is similar to the rate in Bamako, Mali and Algiers, Algeria respectively [16].

## 6. Endometrium

These elderly patients were 46 to 79 years of age with an average of 59.36 years, and a median of 61 years. There were 14 patients with this malignancy. 63.6% of the women were illiterate and 9.09% had a secondary or university education, while 72.72% were either housewives or farmers. The diagnosis was adenocarcinoma (81.81%), adeno-squamous carcinoma (9.0%), and endometrial stromal sarcoma (9.0%), this last involving the youngest case in this group. The clinical extent of the disease showed 54.54% localized to the organ and 9.09% with distant metastases or direct extension respectively. In 18.18%, the extent of the disease was not known.

## 7. Placenta

We had three cases of cancer involving the placenta, with an average age of 33.33 years. One case was illiterate while the other two had a secondary and university education respectively. Two of the women were housewives and one, a professional. All three were diagnosed with choriocarcinoma with distant metastasis. Our 0.3 ASRW rate is same as that reported in Uganda and Zimbabwe respectively [16].

## 8. Ovary

There were 32 patients with malignancy of this organ. The average age of patients with ovarian Burkitt's lymphoma (BL) is 11.8 years. This tends to lower the general age of patients with ovarian malignancy (48 years without BL). five patients were illiterate, 10 had a primary education, 5 had a secondary education, 7 had an above secondary education, and 1 had a university education while the status of 6 was unknown. Professionally, 13 were housewives, 5 were students, and were office workers. 1 case involved a business woman while 2 were pupils. In 2 cases the profession was unknown. Pathologically, the ovarian tumours were serous cystadenocarcinoma 10, adenocarcinoma 12, mucinous cystadenocarcinoma 3/32, Burkitt's lymphoma 3. There were 2 cases of undefined malignant tumour and 1 case each respectively of undifferentiated sarcoma, undifferentiated carcinoma, choriocarcinoma, and malignant Non-Hodgkin's lymphoblastic lymphoma. 13 cases were localized to the organ at diagnosis while 5 had loco-regional lymph node involvement. In 8 cases each, there was extension to near and distant organs respectively.

An ASRW of 3.8 is found for ovarian cancer in our series. This is more than the 2.0 rate reported in the Gambia; less than the 7.8 reported in Harare, Zimbabwe, but similar to the 3.6 of Ahmedabad, India [16].

## V- CONCLUSION

Using the Yaoundé Cancer Registry as an instrument for cancer surveillance, we recorded a significant number of gynecological cancers in the Yaounde population. These cancers are a public health problem in the population and Cameroon in general. They form an important fraction of the total cancer burden in our community, with important socio-economic impact. Women of low socio-economic status, majority without prior screening are mainly involved. Patients are of varying ages and are seen at an advanced stage of disease. Cancers of the breast and cervix, organs amenable to screening, are mostly involved. Public health education on appropriate diet, the deleterious effects of alcohol and tobacco, promiscuity and HIV/AIDS and avoidance of other known risk factors is vital. The public should be educated on the benefits of screening, more especially for those genetically predisposed. Increase investment in gynecologic oncology and further studies are recommended. ■

## REFERENCES:

1. Mbakop A, Essame Oyono JL, Mgbanga MC, Abondo A. Epidemiologie actuelle des cancers au Cameroun (Afrique Centrale). Bull Cancer 1992; 79:1101-04.
2. Jensen OM, Tuyns AJ, Ravisse P. Cancer in Cameroon: A relative frequency study. Rev Epid Sante Publ 1978 ; 26:147-59.
3. Jensen OM, Storm HH. Purposes and uses of cancer registration In: Jensen OM, Parkin DM, MacLennan R, Muir CS, Skeet eds., Cancer Registration Principles and Methods. IARC scientific publications no. 95, Lyon, International Agency for Research on Cancer 1991:7-21.
4. Doh AS, Shasha W. Epidémiologie des cancers féminins en Afrique. Vie et santé (Publications of members of the Department of Obstetrics and Gynecology, Faculty of Medicine and Biomedical Sciences, University of Yaounde I) 1991.
5. Doh AS. National Cancer Control Program (Cameroon). Communication Journées Camerounaises de Cancérologie. Yaounde, 16 Avril 2005.
6. Enow-Orock G, Moampea-Mbio MC, Doumbe P, Essame-Oyono JL. Burkitt's Lymphoma: An epidemiological and anatomo-clinical review of 300 cases seen in Cameroon (Central Africa). Clin Mother Child Health 2005; 21, 223- 27.
7. Harlow BL, Weiss NS, Lofton S. The epidemiology of sarcomas of the uterus. Am J Obstet Gynecol 1986; 76:399-402.
8. Henson DT. An epidemiologic study of cancer of the cervix, vagina, and vulva based on the Third

National Survey in the United States. *Am J Obstet Gynecol* 1977; 129: 525.

9. Herttig AT, Mansel M. Tumours of the female sex organs. Part I Hydatiform mole and choriocarcinoma. In: Atlas of tumour pathology, section 9 Fascicle.

33. Washington D. C., Armed Forces Institute of Pathology 1956:534-39.

10. Young RH, Scully RE. Sarcomas metastatic to the ovary: a report of 21 cases. *Int J Gynecol Pathol* 1990; 9:231-52.

11. Cederquist R, Attah EB. Zaria Cancer Registry, 1976-1978. In: Parkin D.M. ed., Cancer Occurrence in Developing Countries (IARC) Scientific Publications No. 75), Lyon, IARC 1986; 68-73.

12. Ferlay J, Bray F, Pisani P, Parkin D M. Globocan

2000. Cancer Incidence, Mortality and Prevalence Worldwide. IARC Press ,Lyon, 2001.

13. Berkowitz RS, Cramer DW, Brenstein MR, Cassells S, Driscoll S, Goldstein DP. Risk factors for complete molar pregnancy from a case- control study. *Am J Obstet Gynecol* 1985; 152:1016-20.

14. Parkin DM, Bray F, Ferlay J, Pisani P. Estimating the world Cancer burden: Global Cancer (Globocan) 2000. *Int J Cancer* 2001; 94:153-56.

15. Waterhouse J, Muir CS, Correa P, Powell J. Cancer Incidence in Five Continents. IARC Scientific Publications (15): IARC Lyon. 1976: 977-96.

16. Parkin DM, Whelan SL, Ferlay J, Teppo L, Thomas DB. Cancer Incidence in Five Continents. IARC Scientific Publications: IARC Lyon.2001; 677-85.

17. Juan R. Carcinoma of the breast: In Ackerman Surgical Pathology. Pat Joiner ed Vol.2,19951565-660.

18. Doh AS, Shasha W. Carcinoma of the vulva in Yaounde, Cameroon. *Int J. Gynecol Obstet* 1993; 45-6.

19. Daw E. Primary carcinoma of the vagina. *J Obstet Gynecol British Commonwealth* 1971;78: 853-56.

20. Herbst AL, Green TH Jr, Ulfelder H. Primary carcinoma of the vagina. An analysis of 68 cases. *Am J Obstet Gynecol* 1970; 106:210-18.