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Epidemiological, clinical and therapeutic profile of cervical cancer in Butembo/ North- Kivu, DRC

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ABSTRACT

Background: Cervical cancer is a sexually transmitted cancer caused by oncogenic Human Papilloma Virus (HPV). **Aim:** The study aimed to determine the epidemiological, clinical and therapeutic profile of cervical cancer in Butembo. **Method:** This was a retrospective and descriptive study. Case records of patients managed for cervical cancer from January 2009 to December 2013 at Matanda and GRH Katwa, both located in Butembo, North-Kivu, Democratic Republic of Congo were reviewed. **Results:** The incidence of cervical cancer in Butembo was 0.97% with a peak in 2011 (1.24% and 1.49%) and 2012 (1.24% and1.85%) at Katwa and Matanda hospitals. The mean age was 54 years with 23 and 85 years old as a minimum and maximum age. 73.41% of patients complained of genital bleeding on admission. Most of patients (56.96% and 30.38%) consulted lately in stages III and IV of FIGO classification. Most of complications (anemia, genital secondary infections and alteration of general state) occur in the FIGO stages III and IV. 49.37% benefited of chemotherapy, 11.40% of total hysterectomy, 16.46% of total hysterectomy and chemotherapy, 24.05% of palliative treatment and 1.26% of abstention after laparotomy. **Conclusion**: This study revealed a dramatic figure of cervical cancer in Butembo city. Effort should be made by the government and other health agencies to organize mass campaign to practice cervical screening as well as education on the various risk factors. Access to the vaccines (anti-HPV 16-18) and the precocious diagnosis should be ensured.

Key words: Epidemiology, cervical cancer, HPV, FIGO stages, laparotomy, Congo

INTRODUCTION

Cervical cancer is currently considered as a sexually transmitted cancer as caused in most cases by a viral infection, Human Papilloma Virus (HPV) strains 16 and 18. Almost two thirds of women who are sexually active are in contact with the virus.[1-2] This cancer is a type of cancer that develops in the cells of the cervix (the lower part of the uterus that is connected to the vagina).[3-4] The HPV virus is found in 99.7% of cervical cancers, so they are considered as a major cause of cervical cancer of the uterus.[4-5]

According to WHO, in 2002 there were in the world more than 500,000 new cases of cervical cancer, of which over 90% in developing countries.[6] In sub-Saharan Africa, 72,000 new cases were registered in the same year and 56,000 women have died of cervical cancer.[3] It is the second common female cancers worldwide after a breast cancer.[7] It is estimated that globally, a woman dies of cervical cancer of the uterus every two minutes, 8 of these 10 deaths occur in developing countries.[4] In these countries, 80% of cases of cervical cancer are not detected or are already incurable when the diagnostic is made.[5]

With the extension of pap smear screening, the incidence of this cancer decreases for thirty years at a steady pace.[1,6] There exists a half million cases per year worldwide, including 60,000 in Europe.[4]

In North and South America, but not in Cuba, there is also a decrease, but with lower amplitude. In Canada and United States, the decline has been steady for a while and then reached a plateau and may even be replaced by an increase in the younger age groups.[8]

Higher incidences (> 40/100000) of cervical cancer are observed in some countries in African region where the disease affects women from 30 years; the diagnosis is made in about 90% of cases at very advanced stages.[4,9]

In Democratic Republic of Congo (DRC), epidemiological and therapeutic data on cervical cancer are patchy or non-existent in some provinces. However, Lubumbashi onset of cervical cancer of the uterus was observed earlier for respondents (30-45 years at 52.5%) and this seems to be linked to several risk factors including poor socio-economic conditions, precocious pregnancy, precocious sexual activity, multiple partners, sexually transmitted diseases (HPV and Herpes Virus secondarily) and the trauma of many pregnancies.[10]

In order to study the epidemiological, clinical and therapeutic profile of cervical cancer in Butembo, we aimed to determine the prevalence of cervical cancer, describing the epidemiology of cervical cancer cases, describing the clinical forms usually encountered in Butembo hospitals and identify ways of management of cervical cancer in the health facilities in Butembo.

METHODOLOGY

Framework approach

This survey was carried out in two hospitals; Matanda Hospital and General Referral Hospital (GRH) of Katwa, both are located in the East of D.R.C, North- Kivu district, in Butembo town.

Matanda hospital is a government institution run by the Catholic Church. It is located in the center of the town along the fourth national road. It organizes a service of Gyneco-Obstetrics held by 2 generalist physicians.

GHR Katwa is a clinic which was created in 1952 by the initiative of the American missionaries. It is managed by the Protestants Evangelical Community of Baptist in Central Africa. It is located in the South of Butembo town. The hospital has visits, at least once a week, of a specialist in Gyneco-Obstetrics. However, it is led by 2 generalist physicians.

Study design

This was a retrospective and descriptive study reviewed the case records of patients managed for cervical cancer from January 1st, 2009 to December 31st, 2013 at Matanda hospital and GRH Katwa.

Population, sampling procedure and inclusion criteria

The target population was formed by all patients who consulted the services of Gynecology of Matanda hospital and GHR Katwa from January 2009 to December 2013 and for whom the discovery of cervical cancer was made after clinical examination and followed by hospitalization for cervical neoplasia confirmed by paraclinical (pathology) or not.

Our sample size was exhaustive using reasoned survey. We included all patients who met the inclusion criteria. So, were included in this survey all patient aged ≥ 18 years old, patients diagnosed with cervical cancer confirmed or not by pathology. All patients with incomplete medical file were excluded. 79 cases were selected and they did not represent all patients received, but only patients admitted either for treatment or for increasing the condition.

Data collection and study variables

The tools used included the hospital registers and secretariats; operating protocols and those of pavilions devoted to Gynecology services at both

hospitals as well as hospital records. Parameters studied were age, marital status, profession and socio-economic conditions (housing, education level), gyneco-obstetric background (obstetric formula, menstrual cycle, date of last menstruation, menopause notion, contraception, sexual activity, sexual transmitted infections/sexual transmitted diseases, age at first sex), medical background: smoking, HIV / AIDS, clinical signs (genital bleeding, vaginal discharge, pelvic pain, Schiller Test, clinical stage of the disease, the general condition), complications, hold in charge and modality of output for each patient. Note that the palliative treatment was formed by antibiotics, analgesic, transfusion, and infusion.

Ethical considerations

The proposal was presented to the department of Gyneco-Obstetrics and approved by the Ethical committee. As our survey was retrospective, we used the medical file of patients, the hospital registers and secretariats; operating protocols in anonymity.

Statistical analysis

Capture and analysis were performed by using EPI INFO7.1.3.0 software, software for computer processing of epidemiological surveys. We have used the usual statistical tests such as percentages, mean with standard deviation.

RESULTS

Epidemiological profile

After this study, we collected 79 cases suffering from cervical cancer. 31 cases (0.77%) at GHR Katwa consultation on 3983 patients who consulted during our study period, and 48 cases (1.16%) at Matanda hospital on 4129 patients consulted. The incidence of cervical cancer in Butembo was 0.97% with a peak in 2011 and 2012 at both of hospitals as it is shown in the table 1.

The distribution of cervical cancer about age showed that the age group of 34-49 contains 30.38% of the cases. The middle age was 54 years. The minimum age of the patients with cervical cancer was 23 years and the maximum 85 years (table 2).

Regarding patients profession, 68.35% were cultivators, 13.92% were storekeepers and saleswomen of small trade, 13.92% other were house wife and jobless and 3.79% remaining registrars.

Among co-factors of cervical cancer found at patients' bearers this pathology, the cervical cancer, 3.80% had a notion of genital infections in repetition, 50.63% were multiparous, 6.33% have the HIV/AIDS infection, and the unfavorable conditions were recovered to 34.18%

Table 1: Distribution of cervical cancer compared to years of study hospitals to Katwa and Matanda

	GRH KATWA			MATANDA Hospit		
Year	**n**	**N**	**%**	**n**	**N**	**%**
2009	3	798	0.37	6	876	0.6
2010	5	776	0.64	6	949	0.6
2011	10	806	1.24	12	805	1.49
2012	10	804	1.24	14	754	1.85
2013	3	799	0.37	10	754	1.34
Total	**31**	**3983**	**0.77**	**48**	**4129**	**1.16**

Table 2: Distribution of cervical cancer according to patients' ages

Age	**n**	**%**
18-33	6	7.59
34-49	24	30.38
50-65	23	29.11
66-81	23	29.11
82- 97	3	3.80
Total	**79**	**100**

Table 3: Distribution of patients according to principal complaint in admission

Principle complaint	n	**%**
Genital bleeding	58	73.41
Abdominal-pelvic pain	17	21.52
Whitish liquid	3	3.80
Thinning	1	1.27
Total	**79**	**100**

Table 4: Patients' distribution according to the FIGO clinical stages

FIGO STAGES	**n**	**%**
IIa – Iib	10	12.66
IIIa-IIIb	45	56.96
IV	24	30.38
Total	**79**	**100**

Table 5: Complications of according to the FIGO clinical stages

COMPLICATIONS	**Clinical stages of FIGO** IIa - IIb		IIIa - IIIb		IV		**Total**	
	n	%	n	%	n	%	n	**%**
Anemia, GSI and AGS	2	20	20	44.44	17	70.84	39	49.36
Anemia and GSI	2	20	15	33.34	2	8.33	19	24.06
GSI	5	50	3	6.66	0	0	8	10.12
Anemia	1	10	6	13.34	0	0	7	8.86
Bladder-vaginal fistulas	0	0	0	0	3	12.5	3	3.80
Tie-section of ureters	0	0	1	2.22	2	8.33	3	3.80
Total	**10**	**100**	**45**	**100**	**24**	**100**	**79**	**100**

GSI: Genital Secondary Infections
AGS: Alteration of General State

Table 6: Management according to the FIGO clinical stages

TREATMENT	**Clinical stages of FIGO** IIa - IIb		IIIa - IIIb		IV		**Total**	
	n	%	n	%	N	%	n	**%**
Chemotherapy	0	0	25	55.56	14	53.84	39	49.37
Total hysterectomy	7	70	2	4.44	0	0	9	11.40
Abstention after laparotomy	0	0	0	0	1	3.84	1	1.26
Total hysterectomy ar chemotherapy	3	30	10	22.22	0	0	13	16.46
Palliative treatment	0	0	8	17.7	9	42.30	17	24.05
Total	**10**	**100**	**45**	**100**	**24**	**100**	**79**	**100**

Table 7: Relation between mode of exit and FIGO clinical stage

Exit modality	**Clinical stages of FIGO** IIa – Iib		IIIa – IIIb		IV		**Total**	
	n	%	n	%	n	%	n	%
Improved	7	70	44	97.78	22	91.67	73	92.40
Healed	3	30	0	0	0	0	3	3.80
Died	0	0	1	2.22	2	8.33	3	3.80
Total	**10**	**100**	**45**	**100**	**24**	**100**	**79**	**100**

Clinical profile

The genital bleeding represented 73.41% of the consultation motivation as shown in table 3 and 56.96% of patients with cervical cancer consulted when the disease is in the third level of FIGO classification (table 4). The alteration of the general state (AGS), anemia and the genital secondary infections (GSI) represented 49.36% of cervical cancer complications' and they occured on 70.80% in the stage IV of FIGO. To the stage IV of FIGO, the intervening of the bladder-vaginal fistulas as well as complications of the surgical treatment as the tie-section of the urethras was more frequent (table 5).

Hold in charge

In this survey, the chemotherapy represented 49.37% of treatment means of cervical cancer. In the IIa-IIb stage of FIGO, the recourse to the hysterectomy is solicited to 70%; in the IIIa-IIIb stage, it is the chemotherapy (55.56%); in the IV stage, it is more the palliative treatment (42.30%)(table 6).

As for the modes of exit out of the hospital, 92.40% (73 cases) left improved in relation to the clinical state of admission, 3.8% (3 cases) died at the hospital and 3.8% (3 cases) are declared healed at the exit.

A report made between mode of exit to the hospital and the FIGO clinical stage demonstrated that deaths of patients occurred at the hospital are cases in the III stages and IV of the illness while 100% of the declared healed are in the II stage as it is shown in table 7.

DISCUSSION

Epidemiological profile

This survey spread on a period of five years and we had 79 cases of cervical cancer on 8112 consultations in service of gynecology it means an incidence of 0.97%. This incidence is raised compared to the rates of incidence (normalized in relation to the ages pyramid of the world population) that vary between a minimum of 2.6 new cases for 100000 women-years in China and a maximum of 67.2 for 100000 at the African women of Harare, in Zimbabwe.[3-5] Ezebialu and his collaborators found a prevalence of 60.7% at Nnamdi Azikiwe University Teaching Hospital in Nnewi.[11] Comparing our results to this, our prevalence is very low. This may be due to the fact that most of the patients with cervical cancer did not consult modern health centres; they preferred consulting traditional practitioners. The prevalence of 0.97% still remains high and this elevated rate would explain itself by the fact that in Africa at a patient bearer of the cervical cancer, we observe more encouraging factors (bad socioeconomic conditions, the precocious motherhood, the precocious sexual intercourse, the multiple partners, the sexually transferable illnesses of which HPV and more secondarily the Herpes virus, the traumatism caused by the numerous motherhoods) as well as the no or bad hold in charge of the benign pathologies of the womb cervix.[12-15]

The mean age of the unexpected arrival of the cervical cancer for our survey was of 54 years. The minimum age recovered in this set is 23 years and the maximum 85 years. To the institute of oncology of Dakar, the minimum age was 20 years whereas 35 years before, in the same institute, the mean age was of 48 years.[16] Elsewhere in Africa, the mean age is raised more: in Burkina Faso and in Madagascar, it is 48 years; in Cameroon it is 59 years and 51.5 years in Tunisia.[11] The patients aged of 63 years and more represent 32.91% while in Dakar they represent 14%.[16-17] It shows that it must not have an absolute superior age limit there for the tracking of the cervical cancer. In Lubumbashi, Banza and his collaborators fustigate that the apparition of the cervical cancer observed itself earlier at home investigated (30-45 years with 52.5% of the cases) but that the mean age of the invasive cancers is 54 years, the one of the meadow invasive lesions between 30 and 35 years.[4]

In this survey, it was found a weak proportion in the age group of 18 to 33 years but non negligible (7.59%). Indeed, this prevalence reveals this fact of the existence of the pathology at the young women. In Dakar, the women aged of less than 34 years constitute 14% of the sick population. In France as well as in Burkina Faso they represent 6.15% and 13% of patients aged of less than 35 years.[16-17]

As for the encouraging co-factors, the multi-parity and the unfavorable socioeconomic conditions are the more recovered in our survey with a proportion of 50.63% for the only multi-parity and this last associated to the socioeconomic conditions unfavorable to a proportion of 34.18%. Well evidently it recovered other factors well known by a lot of other authors.[3,5,9,13,16,17]

Indeed, the African women more especially the ones of Butembo do not have a lot of notions on the family planning, also in some African societies the number of children is considered like a wealth without forgetting that it also lives the most often an economic precariousness constant, what would expose it here to the factors high enumerated.

Clinical profile

On the clinical point of view, we noticed that patients with cervical cancer presented on account of 73.41% for genital bleeding, to 21.52% for the pelvic pains, to 3.80% for vaginal discharge and to 1.27% for thinning. In Dakar, on the plane of symptoms, the abnormal bleeding is present at 489 patients (79.5%), vaginal discharge in 79 cases (12.8%) and the pelvic pains among 120 patients (19.5%).[16] What is similar in other studies especially done in Africa.[13,17]

Otherwise, these patients consulted the sanitary structures late where we made the survey and most of them to the stage of the complications. Therefore, cervical cancer is almost always diagnosed to the advanced stages (III and IV) of the illness. In this set, the stages FIGO IIIa-IIIb represent 56.96% and the stage IV 30.38% of the observed cases while in Tunisia had a preponderance of the stages evolutionary IIb, III and IV (72.7%).[17] To the institute of the Cancer of Dakar in 20 years, the diagnosis of the stages evolved regressed appreciably passer-by of 77% to 68% as well as in other studies done in west.[16,18-19]

Indeed, the research of the precancerous lesions not being systematic, it would explain this belated diagnosis since the clinician thinks of it mainly only in case of genital bleeding or of intervening of a complication. Banza *et al.* and Ahmadou *et al.* reported that, on stage FIGO IIa - IIb, 62.5% of the cases of the cervical cancer already complicated themselves of genital infections and to the IIIa - IIIb stages and IV, the regional invasion with fistulas and anemia is there respectively of 44.44% and 73.08%.[13,16] Other complications occurred after surgical treatment such the fistulas vaginal-bladder and the ligature section of the ureters as in Lubumbashi and in Dakar where one rather noted notably the intervening of the complications after a cervix-hysterectomy of the urinary fistulas, lymphoceles and phlebitises.[13,16]

Hold in charge

The treatment of the cervical cancer in this set is palliative and symptomatic to 24.05% because most cases are diagnosed to the advanced stages (III and IV) but adapted as some therapeutic means make defect in this middle. The chemotherapy was solicited to 49.37%; the surgical treatment to only 11.40% and the surgical treatment completed by a chemotherapy to 16.46%. Contrary to the situation of other heaven where the neo-adjuvant chemotherapy is tempted about only 5% and the other patients benefit from the surgery, of the tele-radiotherapy to the Cobalt, the plesio-curietherapy and the interstitial curietherapy.[8,12,14] In the IIa-IIb stage the radical total hysterectomy was made to a proportion of 70%; in the IIIa-IIIb stage, the chemotherapy to a proportion of 55.56%; in the IV stage the palliative treatment to 42.3%. The patients could not benefit therefore from advantages of the radiotherapy-surgery association and should have been content with an exclusive chemotherapy in an essentially palliative goal. Indeed, the radiotherapy was not available in this area and even though it would exist, its cost would be raised too much for our patients. Is the clinician of Butembo content thus, with the least pain: the surgical treatment that consists exclusively to the hysterectomy and the chemotherapy was it again necessary that the used products and the therapeutic protocol were ideals?[12,20] The experience of the surgeons and a good indication according to the protocol (medical or surgical treatment) would improve the management of the cervical cancer in these conditions of work.

CONCLUSION

This study revealed a dramatic figure of cervical cancer in Butembo city. The prevalence is high in active women categories and patients present at a late phase. The precocious diagnosis and precocious treatment of cervical cancer improve the patients' prognostic. Effort should be made by the government and other health agencies to organize mass campaign to practice cervical screening as well as education on the various risk factors. Introduction of HPV vaccine in the vaccinal calendar of women should be done as cervical cancer is a preventable cancer but not yet prevented.

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