

Colposcopy at the University Hospital in Conakry: Role of Colposcopy in Screening and/or Diagnosis of Cervical Cancer in the UTH University Teaching Hospital of Conakry

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Abstract

Objective: This study was conducted to evaluate the role of colposcopy in the screening of cervical cancer at the UTH in Conakry. **Material and Methods:** We conducted a descriptive study on over a period of 18 months of from the 1 July 2004 to December 31, 2005 in the CHU of Conakry Any women aged from 25 to 65 years old who has agreed to the screening of cervical cancer by colposcopy was included. Statistical tests of sensitivity, specificity, and predictive values positive and negative were computed directly and compare among all participants. **Results:** During the study period, we included a total of 9339 women. For all precancerous and cancerous lesions, sensitivity and specificity were 93% and 64% respectively. With a positive predictive value of 46% and the negative predictive value of 90%, low and high grade precancerous lesions were found with: a sensitivity of 91%, the specificity of 64%. The positive predictive value of 37%, and the negative predictive value of 91% were estimated. Intra epithelial lesions (LIEBG) low-grade squamous sensitivity was 94%, specificity of 62%, the positive predictive value of 31%, the negative predictive value of 95%. For lesions intra epithelial highgrade squamous (LIEHG), the sensitivity was 85%, 10%, the positive predictive value of 74% specificity, negative predictive value of 95%. **Conclusion:** Colposcopy is a reference method of detection of precancerous lesions of the cervix to promote cancer.

Keywords

Cervical Cancer, Screening, Colposcopy

1. Introduction

Cancer of the cervix is the second cancer of women in the world after the breast [1]. In developed countries, the incidence and mortality of cancer decreased considerably through systematic screening programs [2]. In Africa, on the other hand, cervical cancer mortality is about 22.5 deaths per 100,000 women per year and survival at 5 years is estimated at 21% [3]. In Guinea, cancer of the cervix is a real public health problem; it represents the first cancer of women, and the second all sex confused according to EDS Guinea 2012 [4]. Colposcopy is the screening tool commonly used in developing countries, which will also allow biopsy for the diagnosis. The objective of this work was to evaluate the role of colposcopy in screening for cancer of the cervix in the CHU of Conakry.

2. Material and Methods

In this study, written consents were obtained from all adult women participants including a research approval from the Gynecology and obstetrics chair of the University of Conakry. It is a cross-sectional, descriptive study for 18 months from 1st July 2004 to 31 December 2005 in the Gynecology-obstetrics services and laboratory of pathological anatomy of the CHU of Conakry. The study population consisted of women aged between 25 and 65 who has agreed to screening for cancer of the cervix by colposcopy. Detection was done by trained colposcopists and trained through a colposcopic examination with the application of acetic acid and the lugol. Biopsies were then made and sent to the laboratory of pathology in patients with 03 points or more in the depreciation of Reid [4].

2.1. Inclusion Criterion

Females aged 25 to 65 apparently healthy having visual screening test (positive or negative) after Signing informed consent.

2.2. Criterion of Non-Inclusion

Women under 25 and over 65 and all other women who have had a total hysterectomy.

Immediate treatment was proposed based on the extended and lesion situation compared to the cervical canal. Epi-info software was used for data analysis, statistical tests of sensitivity, specificity, predictive values, positive and negative were computed directly and compared among all participants.

2.3. Limitations

Colposcopy is not well indicated for screening, the use of Visual Acid Screening seems the appropriate technique for mass screening.

The absence of radiotherapy is an obstacle for the management of advanced cancers.

3. Results

1) Sociodemographic characteristics of the study population

In total we have recruited 9339 women of which 89.6% were of reproductive age. In sociodemographic terms, the majority age group was that of 30 - 39 years with an average of 45. Soit une frequence de 48% in addition, 44.2% of women were illiterate contre 55.8% de Lettered woman and 49.9% were large multiparous.

2) Exploration

Visibility of the squamo-cylindrical junction (Table 1): our study had shown a lack of visibility of the area of junction in the 50 - 59 age group and 60 - 65 years of 52.7% and 74.3% respectively (Table 2). **Comparison of the results of colposcopy and histopathology:** colposcopy was normal in 88.9% compared to histology which was normal in 63.2% (Table 3).

Concordance between the results of the colposcopy and histology: for 164 results of recognized colposcopies normal histology had found 7 LIEBG, 9 LIEHG and 3 cancers. The detection of the LIEBG rate was 42 per 1000 women. The detection of the LIEHG rate was 9 per 1000 women (Table 4).

Performance of colposcopy in the diagnosis of LIEBG, LIEHG and cancer: on all injuries precancerous and cancerous, the sensitivity was 93%; specificity of 64%, the positive predictive value of 46% and the negative predictive value of 90% (Table 5).

Table 1. Sociodemographic characteristics of the study population.

Female age (years)	Workforce (n = 9339)	Percentage (%)
Age 25 - 29	991	10.6
30 - 39	4492	48.1
40 - 49	2908	31.1
50 - 59	868	9.3
60 - 65	80	0.9
Gesity		
0	621	6.7
1 - 2	1837	19.7
3 - 4	2219	23.8
5+	4662	49.9
Women of childbearing age	8363	89.54
Marital status		
Bride	6858	73.4
Widow	367	4
Divorcee	237	2.5
Other+	196	2.1
Unknown	1681	18
Lettered woman	5209	55.8
Woman illphabetes	4126	44.2

Table 2. Visibility of the cylindrical squamo junction over the age.

Groupes Age	Visible	pourcentage	Non visible	Pourcentage	Total
25 - 29	377	64.0	212	36.0	589
30 - 39	3113	82.9	644	17.1	3757
40 - 49	1690	67.3	822	32.7	2512
50 - 59	345	47.3	385	52.7	730
60 - 65	18	25.7	52	74.3	70
Total	5543	72.4	2115	27.6	7658

Table 3. Distribution of the results of colposcopy and histopathology.

	Colposcopy		Histology	
	number	%	number	%
Normal	8263	88.9	632	63.2
Inconclusive	237	2.6	37	3.7
Atypical			15	1.5
LIEBG+	678	7.3	146	14.6
LIEHG++	62	0.7	79	7.9
Cancer	54	0.6	91	9.1

LIEBG+: Injury intra epithelial squamous to low grade; LIEHG++: Injury intra epithelial squamous of high grade.

Table 4. Concordance between the results of the colposcopy and histopathology.

	Colposcopy		Histology		Total
	Normal	LIEBG	LIEHG	Cancer	
	164	7	9	3	183
	273	115	34	11	433
	9	4	19	20	62
	2	1	0	48	51

Table 5. Performance of colposcopy in the diagnosis of LIEBG, L IEHG and cancers.

Result	Disease presents	Absent disease	Total
positive Colposcopy	252	294	546
négative Colposcopy	19	164	183
Total	271	458	

Sensitivity = $252/271 = 0.93$ or 93%, specificity = $294/458 = 0.64$ or 64%; Positive predictive value = $252/546 = 0.46$, or 46%, value predictive negative = $164/183 = 0.90$ or 90%.

The colposcopy was positive in 96, 34% of cancer cases and falsely negative in 3.65% cases. Where a sensitivity of 96% a specificity of 98% and the predictive positive value and negative 96 percent and 98 percent respectively of colposcopy performance (**Table 6**).

Table 6. Performance of colposcopy in the diagnosis of the LIEBG.

	Disease presents	Absent disease	Total
Positive colposcopy	120	273	393
Negative colposcopy	7	164	171
	127	437	564

Sensitivity = $120/127 = 0.94$ or 94%, specificity = $273/437 = 0.62$ or 62%; Positive predictive value = $120/393 = 0.31$ or 31%, value predictive negative = $164/171 = 0.95$ or 95%.

3) Treatment

Cryotherapy was carried out at 11.8% of women with the LIEBG and 49.4% of women with the LIEHG. The cone was made on 39% cases of LIEHG and 2.1% of micro-invasive cancer. Surgery was also made on 8.5% of cancer (**Figure 1**).

4. Discussions

During this work, the objective was to assess the role of colposcopy in screening for cancer of the cervix in the CHU of Conakry. We were able to collect a total of 9339 patients at the waning of organized screening.

1) Sociodemographic characteristics (**Table 1**)

Women of childbearing age were more represented in the age group of 30 - 39 years at 48%.

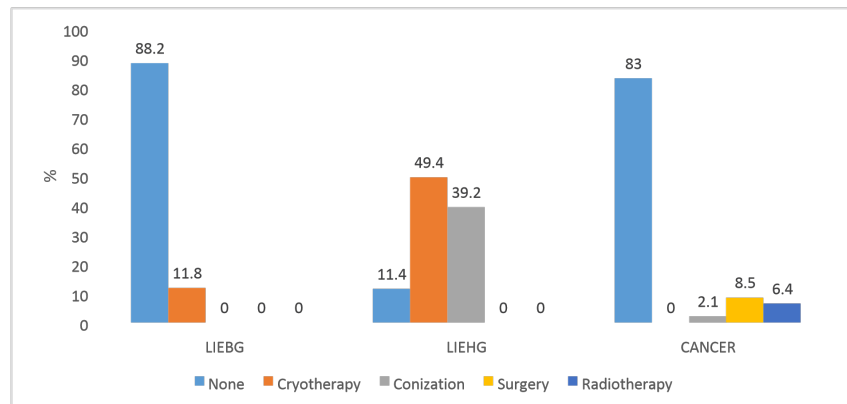
Our results were inferior to those reported by Ben Aissa *et al.* who were 68.4% in the 30 - 49 age group of screened women [5]. In our series, this rate can be explained by the beginning of this organized free screening activity, associated with a large media campaign with low level of perception of the population. As for the gestity, large multigestes accounted for nearly half of our study population; this can be explained by the predisposition of the great multipara to injuries precancerous and cancer of the cervix [1]. Compared to the level of education, 55.8% of the women recruited were applied which could think that they had a better understanding of the importance and desirability of a champagne of organized screening. These patients were either married women 73.4% majority. This observation would be close to that of Tebeu and al in Cameroon who were 73.5% [6]. Thus showing the impact and the place of the spouse on the health of the partner as we revealed several authors in the literature [7].

2) Exploration

Visibility of the cylindrical age squamo junction (Table 2**).** Our study had shown a lack of full visibility of the junction box in the age group 50 - 59 years 60 - 65 years of 47.3% and 25.7% respectively. It is established that over the age of the woman stopped there are difficult to fully see the squamo-cylindrical junction [6], our results joined those of Baker *et al.* indicating that the percentage of junction not seen past of 11.5% before 50% to 75% beyond [6].

Colposcopy and histology (**Table 3**)

Colposcopy and histology were normal 88.9% and 63.2%, respectively in our series. Precancerous lesions have been highlighted in 8% of women. The diagnosis



(a)

	Cryotherapie	Conization	Surgery	Radiotherapie	None
LIEBG	11.8	0	0	0	88.2
LIEHG	49.4	39.2	0	0	11.4
Cancer	0	2.1	8.5	6.4	83

(b)

Figure 1. Type of treatment provided.

of cancer was established at 0.6% is a detection rate of 6 in 1000. The LIEBG have been found in 14, 6% of the cases examined, the LIEHG in 7.9% and invasive cancers in 9.1% of biopsies performed. Ritter *et al.* observed 8.9 percent of precancerous lesions and cancer 0.7% and 2% of colposcopy inconclusive [8].

With regard to the agreement between the results of colposcopy and histology (Table 4), for 164 recognized colposcopy results normal, histology had found 7 LIEBG, 9 LIEHG and 3 cancers. The detection of the LIEBG rate was 42 per 1000 women and 9 for 1000 women for the LIEHG. For all of the precancerous and cancerous lesions, sensitivity was 93%; the specificity of 64%, the positive predictive value of 46% and the negative predictive value of 90% (Table 5). Our study was stackable has money and al which showed a rise in the specificity and positive predictive value, what molecule as the SCC have tendencies to repeat tests for low grade lesions [9]. For only bottom and high-grade precancerous lesions (Table 6): the sensitivity was 94%, specificity is 62%, the positive predictive value of 31%, the negative predictive value of 95%. These results show a superiority of the colposcopy with biopsy in the detection of the LIEHG. However, these results should be viewed with caution, since it is well established that the reference of the precancerous and cancerous lesions diagnostic test remains [10] histology. In this study it was trained colposcopists, the results should not be generalized.

The colonoscopy was positive in 96, 34% of cancer cases and falsely negative in 3.65% cases. Where a sensitivity of 96% a specificity of 98% and the predictive positive value and negative 96 percent and 98 percent respectively. Our study is similar to that of Higgin *et al.* who found a sensitivity 100%, a specificity to 77%

[11] [12].

Compared to the treatment (**Figure 1**), cryotherapy had been carried out at 11.8% of women with LIEBG and 49.4% of the LIEHG. The conization was 39% of the cases of LIEHG and 2.1% of micro-invasive cancer. The surgery was the treatment in 8.5% of cancers associated with radiation therapy at 6.4%.

Colposcopy has many advantages in screening for cancer of the cervix. Colposcopy is a reproducible, sensitive and specific screening method.

It is an approach for optimization of the screening and treatment of precancerous lesions, which will allow a wide margin of progress in reducing the incidence and mortality of invasive cervical cancers in countries in the process of development.

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Conflict of Interest

Contributing authors do not note any conflict of interest in this work. Contributing authors state that they have read and approved the work.

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