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Screening of Cervical Cancer in the Dakar Region by Cervico-Vaginal Smear: Epidemiological and Cytological Aspect

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Abbreviations: HSIL: High Grade Lesions; CSF: Cervical Smear; CIN: Cervical Intraepithelial Neoplasia; LSIL: Intraepithelial Lesions

ABSTRACT

Introduction: The cervical smear is a sample of cells taken from the cervix for early detection of any cellular abnormality that may indicate precancerous or cancerous lesions of the cervix [1]. The aim of this study was to establish the incidences of precancerous and cancerous lesions.

Method: This is a retrospective study of 2391 cases of significant cervical smears performed in the period from 01 August 2014 to 01 June 2016.Data collection was carried out at the Cytology, Cytogenetics and Reproductive Biology Laboratory of the Dante University Hospital. The data were stored and analysed in Excel.

Result: We have collected 2391 files. The mean age of the patients was 47.72 years with a standard deviation of 11.37 years. The most represented age (mode) was 40 years. Women who had more than 5 children represented 8.67% of the women with sometimes multiple abortions. Patients with intraepithelial lesions were 7.27% and of these highgrade lesions (HSIL) represented 2.63%.

Conclusion: Gynecological cytology, thanks to the work undertaken by Papanicolaou since 1928, has proved to be of primary importance in the control and treatment of precancerous lesions, as shown in our study.

Keywords: Pre-Cancerous Lesion; Cancer; Cervix; Dakar

Introduction

The cervical smear (CSF) or pap smear is a collection of cells from the cervix for the early detection of any cellular abnormality that may suggest precancerous or cancerous lesions of the uterus [1]. Cervical cancer is one of the most common cancers in the world, particularly in women. Indeed, it is the 3rd most common cancer in women worldwide and one of the most common in our regions [2]. More than 80% of uterine carcinomas are found in developing countries [3]. Cancerous and pre-cancerous lesions

of the cervix are therefore a real public health problem in many African countries like Senegal [4]. Cervical cancer is preceded by a long latency phase characterised microscopically by a broad spectrum of events ranging from cellular atypia to various degrees of dysplasia or cervical intraepithelial neoplasia (CIN) before progression to invasive cancer.

Method

This is a retrospective study of 2391 cases of significant cervical smears performed in the period from 01 August 2014 to 01 June 2016. This work was carried out at the Laboratory of Cytology, Cytogenetics and Reproductive Biology of the University Hospital of Dantec in Dakar. First, patients were registered in a register with an identification number, surname, first name, age, origin and telephone number. The interview is carried out before the sample is taken and focuses on marital status as well as gynecological and obstetric complaints and history. The sample is taken from a woman in a gynecological position by inserting a suitable speculum which exposes the cervix then use a cytobrush to take the actual smear by scraping the ectocervix and then the endocervix. Finally, two slides marked exo and endo respectively and the patient's ID number are spread out. The slides were then fixed with a fixative, dried and stained using the Papanicolaou method. After the staining step, the slides were mounted and then read under the microscope. We wrote the reports in the computer. We used the computer and the register for data processing and were able to collect cases of smears that could be interpreted. All women with inflammatory and atrophic smears of menopausal origin were excluded from the study. The data were stored and analysed in Excel.

Result

We collected 2391 files. The mean age of the patients was 47.72 years with a standard deviation of 11.37 years. The most represented age (mode) was 40 years. Referrals from level 1 and 2 hospitals were 65%. The rest were referred by private doctors' surgeries, by the pension institute and by some clinics. Patients referred for routine check-up without apparent clinical manifestation were 43.16%. The other requests were due to various clinical manifestations: metrorrhagia, primary or secondary amenorrhea, pelvic pain, dysmenorrhea's majority of patients (51%) were married in a monogamous union. single women accounted for 14% of the total. The remaining 35% were in polygamous households. Patients with intraepithelial lesions were 7.27% and of these highgrade lesions (HSIL) represented 2.63%.

Discussion

The systematic analysis of the results of our study has provided us with important information on the epidemiological data of cervico-vaginal smears in Senegal. Indeed, after 22 months of data collection, the average age of the patients in our series was 47.72 years with extremes between 15 and 88 years. In Ethiopia, Mesele and his team found the same average age in 2010 (47.7 years), after 6 months of study [5]. This age generally corresponds to the period of genital activity in most women. Epidemiological studies have shown a strong correlation between sexual age and certain infections, particularly HPV [6]. Patients were sometimes referred by various public (more than 65%) and private health structures. This can be explained by the relatively affordable cost of this examination in our center (less than 10 euros) compared to private facilities that perform the same examination. Our countries have very little universal health coverage, in contrast to several countries in the North, where the uptake of screening is greater but limited in some areas by disparities [7]. Patients living in the outskirts of Dakar were 53.47%.

The departments of Pikine and Guédiawaye account for more than 50% of the population of Dakar [8]. We therefore believe that increasing the number of public screening facilities in the suburbs of Dakar would probably increase adherence to routine screening. These results are in contrast to those obtained by Diallo and his team who showed 20 years ago that in the absence of functional urogenital signs, women rarely consulted health facilities in Senegal for early detection of cervical lesions [4]. In France, the Haute Autorité de Santé recommends systematic screening for precancerous and cancerous cervical lesions by cervico-vaginal smear every 3 years in women aged between 25 and 65 years [9]. We thus note that education, information and communication about cervical-uterine diseases are fundamental to their prevention. Of the patients screened who were in a monogamous union, 51% were in polygamous households compared to 35%. Polygamy is a major feature of matrimonial systems in sub-Saharan Africa. It is underpinned by cultural and religious perceptions [10].

Studies have shown a major preponderance of HPV infections in non-monogamous spouses, even in developed countries [5,6]. Our study also looked at the parity of women. Indeed, 8.67% of them had more than 5 children. High parity appears to be a very important risk factor for the occurrence of cervical cancer. Studies in Ethiopia, Costa Rica and Thailand found a higher incidence of cervical cancer in women who had more than five children. Weakening of the cervical mucosa, which reduces the spontaneous elimination of HPV, could explain this link. Other studies in Denmark and Manchester found no association between parity and cervical cancer incidence [5,11,12]. Patients with dyskaryotic cyto-morphological abnormalities of the cervical intraepithelial neoplastic type were 7.27% with 4.64% low-grade intraepithelial lesions (LSIL) and 2.63% high-grade intraepithelial lesions (HSIL). In 20 years, we have seen a very significant reduction in the rates of dysplastic lesions, which were estimated to be 20.54%, of which 17.56% were low Bethesda smears and 3.36% were high-grade smears [4]. Studies have shown that 12% of LSIL can develop

into invasive cancer, compared with 1% of HSIL [13]. However, only histology after colposcopy of the lesions could confirm its cytological abnormalities.

Conclusion

Thanks to the work undertaken by Papanicolaou since 1928, gynecological cytology has proved to be of prime importance in the fight against and treatment of dysplastic lesions, and in raising the awareness of health workers, government officials and the education of women in Senegal.

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