

Uterine cervical neoplasia prevention in Parque Indígena do Xingu

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Summary

Results of preventive health measures, diagnosis and treatment applied to Parque Indígena do Xingu native women were studied. Thirty-seven cases of uterine cervical intraepithelial lesions and invasive neoplasias were treated in the local villages without referral to an advanced medical center. LEEPs were carried out in 32 women, three cold knife conizations, one vaginal hysterectomy and one Wertheim Meigs procedure. Results of 53.1% of LEEP surgical procedures did not have margin involvement by the lesions. Bleeding complications were seen in 15.6%. Regular follow-up with two or three cytologic and colposcopic tests in 32 women was carried out. All cases were negative for lesions. Five women were not followed-up due mainly to logistical reasons. Health endeavors adopted in the period 2005-2007 brought about a significant reduction of precursor lesions in this native aboriginal population without screening resources.

Key words: Native people; HPV-induced lesions; HPV.

Introduction

Low social-economic status and screening failure make uterine cervical neoplasia one of the most frequent neoplasias in developing countries [1]. Mortality ranged from 4.6 to 4.8 per 100,000 women between 1995 and 2005 [2].

The principal etiologic agent of preneoplastic lesions and cervical neoplasias is human papillomavirus (HPV). It is possible to diagnose a preneoplastic lesion early, therefore it is necessary to have well organized screening programs. The Pap test reveals cytological changes, then patients are sent for a colposcopy test and directed biopsy. To resolve the problem well established guidelines are necessary. Reduction in the incidence of uterine cervical cancer has reached 50-80% of cases in developed countries with organized screening. One cervical oncological cytology at 35 years of age is enough to reduce the risk the neoplasia by 50% [3].

Hybrid capture (CH2-Digene) detects oncogenic HPV without established disease. In 2003 the FDA approved the DNA-HPV test associated with cytology in women over 30 years old to establish the real risk of developing a uterine cervical lesion. This program includes screening for a three- to five-year interval if it is negative. Thus shorter frequency of tests would be more economical. In case the test is positive it would require more vigilance and diagnosis in the earliest stage of the disease [4]. Preventive health screening would bring about a reduction in uterine cervical neoplasias if regularly performed.

In Brazil there are regional inequalities in cytological coverage and the most exposed populations are those barred from screening [5].

There are few epidemiologic data about Brazilian aboriginal women. There are basic precarious conditions before birth, uterine cancer, and sexually transmitted disease (STD) prevention. One of the few trials has made evident the multiplicity of problems such as high parity, numerous STD and gynecologic diseases, abdominal pain and genital discharge [6]. Moreover, few trials have shown the real frequency of uterine cervical cancer inside aboriginal populations. O'Brien *et al.* evaluated Australian aboriginal women and showed that death risk by such neoplasia is related to prevention failure and late diagnosis [7].

In Brazil, native women are much more exposed to STD as a consequence of not only a great racial mix with caucasian men, but also due to their increased presence in urban centers, the presence of non native people in native areas, and difficult access to prevention information [8].

Brito studied the Parakanã tribe in Brazilian Amazonia and revealed HPV frequency in 42% of women [9].

Likewise, Tabora *et al.* showed 6% of cytological changes including 3% of intraepithelial neoplasia and 1% of invasive carcinomas in the native women of Parque Indígena do Xingú (Mato Grosso) [10].

Indeed, the World Health Organization (WHO-1994) suggests a cover index for cervical cytology prevention for over 85% of the female population. However it is not what occurs, especially in native people. In the municipality of Dourados (MS), ciphers of 7% and 22%, respectively, were found inside Jaguapirú and Bororó villages [11].

In Parque Indígena do Xingu, preventive screening was infrequent before 1991 according to the history of the Xingu Project. Many deaths due to uterine cervical cancer were recorded as a consequence. Delay in the return of cytological results and difficulty in sending native women to referral therapeutic centers have also contributed.

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Since 2005, the Xingu Project, a result of an agreement established among Fundação Nacional de Saúde (FUNASA) and Universidade Federal de São Paulo (UNIFESP), allowed significant changes in preventive screening and treatment for the natives of Parque Indígena do Xingu. In 2005 and 2007 the covered index was 97.6 and 92.6%, respectively. In a cohort of 511 native women cytological changes of some gravity were detected in 4.6% of cases in 2005 and 0.88% of cases in 2007 (personal research report).

All women with atypical cytology were subjected to colposcopy, directed biopsy and treatment according to the guidelines of NUPREV/UNIFESP. The health staff, doctors, and nurses together with medical equipment were sent to Parque Indígena making it possible to give assistance to most of the native women without sending them to large urban centers.

The aim of the study was to show the clinical evolution of 37 aboriginal women who were diagnosed and treated for low- or high-grade cervical squamous lesions and invasive cancer from 2005 to 2007.

Methods

From 2005 the Xingu Project sent gynecologists of NUPREV to check the cervical cytological results of selected atypical cases for referral of native women to colposcopy and treatment if necessary. Thirty-seven native women were treated. From those, ten women were sent to São Paulo for treatment in NUPREV. The other 27 were submitted to therapeutic procedures inside their area by gynecologists who moved to Canarana and Sinop villages, near Parque Indígena do Xingu.

Cytopathological presurgical results were: seven low-grade squamous lesions (19.1%), 28 high-grade lesions (75.6%), and two suspected invasive carcinomas (5.4%). Surgical treatment included 32 large electrical excision procedures (LEEPs), three cold knife conizations, one vaginal hysterectomy and one Werthein-Meigs procedure.

Results

Two of 32 LEEP were complemented by abdominal hysterectomy because they had cervical involvement with high-grade squamous intraepithelial lesions (HSIL). Seventeen cases (53.1%) showed free surgical borders, nine (28.1%) had compromised endocervical edges, five sections (15.6%) had positive ectocervical borders, and one case (3.1%) had both borders compromised.

Intrasurgical complications occurred in five cases (15.6%): copious bleeding needing cervical sutures in two cases and electrocoagulation in another two. Those procedures were done 24 hours after the first treatment and another one after one week.

Colposcopic evaluations of all patients were carried out after six months. At that time four cases had unsatisfactory colposcopy due to no visible squamocolumnar junction (SCJ), but only one had endocervical stenosis. The cytological endocervical slides were satisfactory in three of those cases.

Two out of three patients submitted to cold-knife

conization had clinical Stage Ia1 microinvasive carcinoma and total hysterectomy was performed. The only case of frankly invasive neoplasia, clinical Stage Ib1, was treated with a Werthein-Meigs's procedure.

Thirty-two patients were followed-up with negative cytological and colposcopic controls after two or three evaluations. Three patients were not followed-up because those women were residents of a far away village, Alto Xingu, outside of the area of the Xingu Project. Another two women recently underwent LEEP but have not yet had post-treatment follow-up.

Discussion

Preventive screening for uterine cervical cancer in Parque Indígena do Xingu is performed by a specialized nurse who collects cytopathological materials inside native villages where she goes periodically by land, water or via air. After pathologic results are obtained doctors carry out colposcopy and therapeutic procedures in selected cases with portable equipment inside the native village. Native women have many children to care for and tasks to perform. Thus it is difficult to send those patients to a large urban center especially because of the cultural impact.

The therapeutic action adopted was that suggested in the guidelines of the American Society of Cervical Pathology and Colposcopy using LEEP for HSIL, cyto-histological discordance and endocervical lesions [12]. Cold-knife conization and Werthein-Meigs procedure, were performed when invasion was suspected.

Post-treatment follow-up was high. Three out of 37 women treated have had no follow-up. Thus, 86% of women had two or three controls with quarterly intervals, and all examinations were negative for squamous intraepithelial lesions, corresponding to a 100% cure.

Large cervical lesions were observed in hypertrophic cervixes, probably due to multiparity and frequent infections, which is why intra- and post-surgical procedure for bleeding occurred in 15.6% and 3.1% of cases. The literature index for bleeding is 1-3%; coagulation tests such as coagulation and bleeding time have been performed in most women without changes [13].

All patients underwent serological testing for HIV, hepatitis B and C and syphilis, with negative results. All women had immunoreaction to hepatitis B (anti-HBs positive) as a consequence of mass immunization.

Cervical stenosis and no visible SCJ occurred in four cases post-LEEP. One case of stenosis was a consequence of bleeding needing electrocoagulation. Three cases (9.4%) showed SCJ inversion with unsatisfactory colposcopy. Two of those women were in menopause. Mathévet *et al.* showed 19% of unsatisfactory colposcopy in their cases [14].

Involvement of surgical borders did not change the procedure, except in two cases that showed lesion persistence inside the cervical canal. These patients were submitted to hysterectomy because they had completed their families and would be safer to follow-up. There was

residual neoplasia in both cases. According to Dores [15], positive borders with negative controls did not mean residual disease. Murdoch *et al.* showed 95% therapeutic success, although they had compromised borders in 56% of cases.

Within two years of implementing the Xingu project it was possible to detect that regular preventive screening associated with treatment can promote a decreased incidence of high-grade cervical lesions and invasive cancer. Statistical data showed nine deaths due to uterine cervical neoplasias between 1985 and 2006. Five new cases were recorded and treated in the period of 2000-2005. Those data have not been repeated since 2005 due to the effective action of the health staff of NUPREV and UNIFESP.

Conclusion

Health staff actions have been effective in the prevention, diagnosis and treatment of precursor and invasive lesions of the uterine cervix of aboriginal people. The movement of specialized health professionals and medical equipment to native villages have made the treatment of these women easier and more precocious. A frank reduction of advanced cases and decreased mortality due to uterine cervical cancer in native people have been shown.

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