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ABSTRACTS OF PRESENTED PAPERS

ORAL 01 - Decrease in the expression of the Major Histocompatibility Complex II (MHC-II) and presence of Langerhans cells with immunosuppressive profile in human papillomavirus (HPV) - induced lesions

(Honorable Mention in the Oral Presentation Category)

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Introduction: Activation of T cells specific for Human Papillomavirus (HPV) in the cervical microenvironment has an important role in the eradication of virus infections and elimination of mutated cells. This activation depends on the expression of the major histocompatibility complex and cytokines produced by Langerhans cells in the lesion area. However, HPV genotypes of high oncogenic risk manipulate the immune system cells present in the infected cervical microenvironment, with the aim of not being eliminated, and an immunosuppressive role is induced in them through the production of IL-10 cytokines. **Objective:** To investigate the density of Langerhans cells that produce IL-10 and the class II MHC expression in cervical samples. **Methods:** Biopsies of the cervical epithelium without lesion (n=5), cervical intraepithelial lesions of low (n=10) and high degrees (n=10), and cervical carcinoma (n=10) were analyzed through immunohistochemistry, which were blocked in paraffin and previously submitted to histopathological evaluation and HPV-DNA detection. The co-expression of S100/IL-10 markers and the expression of MHC-II were also investigated. The manufactured slides were digitalized, and the software ImageJ analyzed them to determine the image area and density of immunomarked cells. The Research Ethics Committee of Universidade Federal de Mato Grosso do Sul (UFMS) approved this paper, under number 1628/10. **Results:** Among the samples without lesion, the co-expression S100/IL-10 was not seen, whereas 1.14 cells/mm^2 expressed the MHC-II. Among the lower lesions, 0.009 cells/mm^2 co-expressed S100/IL-10 and 0.73 cells/mm^2 expressed MHC-II. In the high-degree lesions, there were 0.23 cells/mm^2 co-expressing S100/IL-10 and 0.73 cells/mm^2 expressing MHC-II. Among the samples of cervical carcinoma, 0.32 cells/mm^2 presented a co-expression of S100/IL-10 and 0.37 cells/mm^2 presented the expression of MHC-II. **Conclusion:** The results indicate a negatively controlled microenvironment, which consists of a large number of immunosuppressive Langherans cells, and a decrease in MHC-II expression in the samples classified as carcinoma, followed by high-degree cervical intraepithelial lesions. These data suggest that the immunosuppression confirmed by cells and the deficient presentation of antigens through the decrease of MHC-II expression in HPV-induced lesions maintain a microenvironment that is favorable to viral persistence and neoplasm progression. This project was carried out in the Laboratory of Immunology and Molecular Biology of UFMS, with financial support of the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), and Fundação de Apoio ao Desenvolvimento do Ensino, Ciência e Tecnologia do Estado (Fundect).

Keywords: papillomavirus infections; class II genes of the major histocompatibility complex; langerhans cells.

ORAL 02 - Human papillomavirus (HPV) and Chlamydia Trachomatis co-infection in positive and negative HPV samples obtained through self-collection and clinical collection

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Introduction: The Human Papillomavirus (HPV) is considered the most frequent etiological agent of Sexually Transmitted Infections (STI) in the world, and the main cause of cervical cancer. It is understood that this virus is capable of making associations with other microorganisms present in the vaginal tract. Among these pathogens, the *Chlamydia Trachomatis* is significant because it is a pathogenic bacterium, for the organism, capable of making the HPV infection stronger, thus increasing the risks of neoplasm progression. One of the problems that contribute to the evolution of the neoplasm development is the late diagnosis. Currently, the techniques for material collection are invasive, which makes population adhesion to the exam low, with the need of an alternative collection method in order to achieve a wider reach of the audience. **Objective:** To detect the Human Papillomavirus and *Chlamydia Trachomatis* co-infection in samples of positive and negative HPV uterine cervix through self-collection and clinical collection techniques. **Methods:** The paper was carried out with HPV positive samples obtained through self-collection and clinical collection (Research Ethics Committee of Universidade Federal do Mato Grosso do Sul, under number 383,072). One hundred and two samples from 51 HPV positive patients and 90 samples from 45 HPV negative patients were chosen. The analyses were done through conventional PCR, with modified Kl 1–F and Kl 2–R primers for DNA investigation of *C. trachomatis*. Then, the agarose gel electrophoresis was read in the transilluminator and photo documentation system. **Results:** Positive HPV samples were 1.96% positive for *Chlamydia trachomatis*. The samples from self-collection and clinical collection method had a concordance with regard to the DNA positivity for *C. trachomatis*. The DNA of bacteria was not detected in negative HPV samples. **Conclusion:** The self-collection technique had the same efficacy as the clinical collection; therefore, it is an advantageous option. More studies are needed to verify the association of *Chlamydia trachomatis* with the HPV virus, due to the low positivity index found. The project was carried out in the Immunology and Molecular Biology Laboratory, Universidade Federal do Mato Grosso do Sul (UFMS), with financial support of Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Fundação de Apoio ao Desenvolvimento do Ensino, Ciência e Tecnologia do Estado (Fundect).

Keywords: papillomavirus infections; *Chlamydia trachomatis*; co-infection.

ORAL 03 - Human Papillomavirus (HPV) immunization coverage in the Basic Units of Health of Lerroville District in 2014, in Londrina city (Paraná), Brazil

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Introduction: Lerroville is one of the eight management districts of Londrina municipality, Paraná state, Brazil, with a population of 6,000 residents, of whom 71.9% live in the countryside and 28.1% in the urban area. Lerroville Basic Unit of Health (BUH) was opened in 1978, and was renovated and enlarged in 1995. It has several procedures, including immunization with vaccines. The staffs comprise many professionals, including two nurses, two physicians, eight nursing assistants, nine health community agents, one businessperson, one caretaker, two drivers, one physical therapist, one dentist, and one dental assistant. The *condylomata acuminate*, also known as genital warts, venereal warts, anal warts, or anogenital warts, is a Sexually Transmitted Disease (STD), caused by the Human Papillomavirus (HPV). There are more than 100 kinds of HPV in total, which are transmitted especially through sexual intercourse, or direct contact with infected skin or mucosae. The vaccine immunizes four of the most common HPV types: 6, 11, 16, and 18; the first two ones are associated with 90% of the genital warts and the last two with 70% of the cases of cervical cancer. The immunization target population is female adolescents, aged 11–13 years, who were not exposed to any HPV kind, and the goal of the Health Department is to vaccinate at least 80% of this population. In order to be vaccinated, the subject must show her vaccination card or an identification document. Each adolescent shall be given three doses to complete the protection. In these doses, the second dose must be given after six months; and the third, five years after the first dose. **Objective:** To present the HPV immunization coverage of the Basic Health Unit of Lerroville that was performed from March 10 to April 10 and from April 11 to July 25 in 2014. **Method:** A survey of the female population aged 11, 12, and 13 years was done through A/SIAB forms, and the data regarding the number of vaccines performed were entered in the Saúde Web system so that it was possible to find the total number of vaccines used and the calculation of immunization coverage. **Results:**

Table 1 – Number of used doses of the HPV vaccine, from March 10 to April 10, 2014, according to age range.

Age	Population	Number of used doses	Immunization coverage
11 years old	29	14	48.28%
12 years old	34	27	79.41%
13 years old	34	7	20.59%
Total	97	48	49.48%

Source: Sistema Informação da Atenção Básica (SIAB)

Table 2 – Number of used doses of the HPV vaccine, from April 11 to July 25, 2014, according to age range.

Age	Population	Number of used doses	Immunization coverage
11 years old	29	6	20.69%
12 years old	34	3	8.82%
13 years old	34	22	64.71%
Total	97	31	31.96%

Source: Sistema Informação da Atenção Básica (SIAB)

Table 3 – General total of used doses of HPV vaccine, from March 10 to July 25, 2014, according to age range.

Age	Population	Number of used doses	Immunization coverage
11 years old	29	20	68.97%
12 years old	34	30	88.24%
13 years old	34	29	85.29%
Total	97	79	81.44%

Source: Sistema Informação da Atenção Básica (SIAB)

Conclusion: The immunization coverage was beyond what the Department of Health determines, due to several factors, such as reorganization of the work process at USF and, especially, guidance to parents and girls who live in Lerroville district about immunization importance and efficacy.

Keywords: immunization coverage; papillomavirus infections; HPV.

ORAL 04 - Strategies of the Human Papillomavirus (HPV) immunization campaign for girls aged 11–13 years, in Aparecida de Goiânia (Goiás) in 2014

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Introduction: Human Papillomavirus (HPV) infection is common and produces several manifestations. In Brazil, HPV vaccine introduction in the immunization calendar aimed at preventing cervical cancer, thus reflecting on the decrease of incidence and mortality due to this disease. **Objective:** To report the strategies of the HPV immunization campaign for girls aged 11–13 years, in Aparecida de Goiânia (Goiás State), Brazil, in 2014. **Methods**: Case report study that describes the planning and operationalization of the HPV vaccination campaign with their respective immunization coverages. The estimated population receiving vaccination was of 13,137 girls aged 11–13 years. The Ministry of Health determined that at least 80% of the target population should be covered. For immunization coverage analysis, secondary data from the Sistema de Informação do Programa Nacional de Imunizações (Si-PNI) were used. **Results:** The main strategies used were: a) partnership between public and private schools; and b) availability of the vaccine in all health units. Twenty-two teams planned, coordinated, and operationalized the strategies, with each one in charge of seven schools. From the 155 existent schools in the city, only one did not accept taking part in the study. The campaign was done in 57 municipal schools, 62 state schools, and 35 private schools. Previous contact with all schools was performed, then the informed consent was sent to the parents, and the vaccination date was scheduled. In total, 10,912 (83.1%) girls aged 11–13 years received the first dose of the vaccine, 4,622 (35.2%) in health units and 6,290 (47.9%) at schools. The age group of 11–13 years old showed a very heterogeneous immunization coverage; the 11-year-old group showed 72.52% coverage; 12-year-old group showed 86.49% coverage; and 13-year-old showed 107.92% coverage. Only two side effects were reported: a lipothymia and a local reaction. The vaccines were administered in the dates determined by the National Program of Immunizations and are still available in health units for 17% of the girls who have yet not been vaccinated. **Conclusion:** The strategies were successful because they facilitated the selection of girls and ensured that the coverage determined by the Department of Health was accomplished. It has been seen that immunization of adolescents is part of a difficult tradition. It is necessary that health and education professionals and their managers in all levels, together, find means to get the best results in the immunization of the second dose in these populations. Although the vaccine administration for HPV prevention is essential, there is still the need of performing the essential examinations for preventing the cervical cancer.

Keywords: papillomavirus infections; vaccination; disease prevention.

ORAL 05 - Implantation of quadrivalent vaccine against Human Papillomavirus (HPV) in the city of Campos dos Goytacazes in boys aged 11–13 years and strategies used for immunization coverage increase

(Best paper in the Oral Presentation Category)

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Introduction: There are more than 100 different kinds of Human Papillomavirus (HPV). Among these, 30 affect the genital tract. Types 6 and 11 HPVs are considered of low risk and cause around 90% of the genital warts. The high-risk viruses are mainly types 16 and 18 HPVs, which have a higher probability of persisting and being associated with pre-cancer lesions and genital tumors. Rectal cancer had a 96% increase of its incidence in the last years in the male population. Pap test in women together with the use of condom for both genders is a strategy to identify and prevent this condition early. HPV vaccine is an addition to the protection portfolio. Campos dos Goytacazes (Rio de Janeiro, Brazil) has inserted the quadrivalent vaccine against HPV (types: 6, 11, 16, and 18), initially, for resident girls between 11 and 15 years old, since 2010. In 2014, from March 28, immunization for boys aged 11–13 years began in a hybrid strategy of vaccination in schools and in medical centers. **Objective:** To demonstrate all alternatives found to achieve immunization coverage for the three vaccine HPV doses, through the adoption of a vaccination hybrid strategy, combining the mobile vaccination in all public and private schools, the vaccine offer in fixed medical centers, and conducting lectures at schools for adolescents about HPV risks. **Methods:** Survey

of immunization coverage for the first HPV vaccine dose aimed at boys in the chosen age range. Data were taken from *Instituto Brasileiro de Geografia e Estatística* (IBGE) (10,000 boys), and the vaccination statistics were added to the vaccination information system. The Supporting Independent Immunization and Vaccine Advisory Committees (SIVAC) was also used, which the city acquired in order to register data of non-available vaccines in the immunization national program. Upon previous scheduling, the schools received the mobile vaccination. The vaccine was also offered in two fixed medical centers, especially for those who were absent at school and for children who do not study. **Results:** Until July 30, 2014, around 8,500 doses of HPV quadrivalent vaccine were given to boys, with an 85% coverage for the first dose. The strategies used to increase HPV coverage show that school vaccination accounted for around 80% of the coverage for the target population, while the fixed medical centers contributed with around 20% of the total coverage. **Conclusion:** The hybrid strategy of prevention through HPV vaccine associated with the use of health education strategies is efficient to adolescents in Campos dos Goytacazes, as correlated in international studies that used this method. Several other studies are being developed to assess the disease impact on the city and the acceptance level of the vaccine around the country.

Keywords: papillomavirus infections; vaccines; public health.

ORAL 06 - Human Papillomavirus (HPV) infection in genital and mouth of pregnant adolescents

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Introduction: Adolescence and pregnancy represent phases influenced by hormone changes that may predispose to Human Papillomavirus (HPV) infection in the genital area. Occurrence of an infection association between the genital and oral areas in adolescents and pregnant women has been suggested. However, it is still not known if the two conditions together increase this predisposal and association. It has been reported that HPV may infect the periodontium and strengthen the action of periodontopathogenic bacteria, causing the destruction of the teeth support tissues. **Objective:** The present study aimed at identifying a possible correlation of HPV infection in the mouth and cervix of 30 teenage pregnant girls (10–19 years old, according to the World Health Organization — WHO). **Methods:** An examination was performed in the genital area including the visual search for HPV-induced lesions (external genitalia, perineum, and anus). The injection of 2% acetic acid was done in the cervix. The acid-pigmented acetowhite areas were smeared. In the event of no pigmentation, smearing was done in the entrance of the endocervical channel. In the mouth, the virus research consisted of a clinical examination, i.e., a visual search for HPV-induced lesions in the oral mucosa. The complete periodontal examination, which includes determination of visible plaque indices, gingival bleeding, pocket depth, clinical level of insertion, and probe bleeding, was part of mouth examination. Samples of smears performed on tongue/palate and collection of supra-gingival (pool) and sub-gingival (four sites) dental bacterial biofilm were obtained. Smearing samples, collected in the genital and mouth, underwent cytopathological analysis and microarray testing (*Papillocheck®*). The molecular tests of Polymerase Chain Reaction (PCR) (MY09/11) and microarray were performed in biofilm samples. **Results:** Results were described. Fisher's exact test was applied to perform the associations between categorical variables. Kappa's test was used to assess the concordance between diagnosis methods. Group mean age was 15.2 years old (±1.3) and the average of gestational time was 28.8 weeks (±7.3). HPV-induced cell alterations that were identified using cytology were visualized in 3 (10%) smears in the cervix. The microarray testing found a virus in the cervix of 17 adolescents (56.7%), with higher prevalence of HPV16 (n=4; 23.5%) of high oncogenic potential. The citology did not find any HPV-induced cell alterations in any smear and the microarray did not detect the virus in any sample in the mouth. Twenty-two (73.3%) adolescents presented gingivitis at the time of periodontal examination, whereas 8 (26.6%) exhibited periodontitis. The PCR did not find the presence of HPV in any supra- and sub-gingival biofilm sample. The microarray testing identified the presence of HPV16 (low oncogenic potential) virus in the sub-gingival biofilm in a pregnant adolescent. There was no concordance between the used diagnosis methods (clinical *versus* cytological [k=0.103]; clinical *versus* molecular [k=0.198); cytological *versus* molecular [k=0.157]). There was a statistically significant association between adolescents with gingivitis and HPV presence in the cervix ($p<0.05$). **Conclusion:** Finally, there was no association between the presence of HPV in the mouth and cervix in the studied population.

Keywords: human papillomavirus 16; periodontal diseases; mouth; dental plaque.

ORAL 07 - Health practices and confrontation to Human Papillomavirus (HPV) of women living in rural cities: immunization scheme implications

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Introduction: It is observed that the Human Papillomavirus (HPV) vaccination in 70% of the girls younger than 13 years old combined with at least three Pap tests in women aged 35–45 years decreases the risk of cancer to 61%. The immunization scheme is composed of three doses: the first is offered at schools and basic units of health (BUH), the second is within a six-month interval, and the third, a reinforcement, in five years after the first dose. The last two doses are administered in the health unit. **Objective:** To analyze health practices and HPV confrontation of women living in rural cities. **Methods:** The sample comprised 421 women in reproductive age, from 16 rural cities in Paraíba State, of whom 15 women diagnosed with HPV were interviewed. A questionnaire was used about sexual and preventive practices, clinical aspects associated with HPV, and access to services, besides domiciliary interviews, which were analyzed through descriptive statistics and association and analysis of thematic categories. **Results:** The mean age was 35 years old (SD=8.13 years), distributed into the following age ranges: 18–29 (31%) and 30–49 years old (69%). The profile can be described as: married (75%), with elementary educational level (51%), income of up to two minimum wages (93%). The sexual beginning was on average after 18 years of age (SD=4.59), and for 23%, it happened between 10 and 15 years of age. With regard to the use of condom, 71% did not use it in their first sexual intercourse and only 12% affirmed using it constantly. The use of condom in the first sexual intercourse and thereafter is higher in the age range of 18–29 years (χ^2=26.961; p=0.000 and χ^2=12.565; p=0.002). In total, 24% declared never having gone to a gynecologist, a rate higher among older girls (χ^2=4.207; p=0.040); 11% have never taken a Pap test; 42% have never had ultrasonography; and 77% have never had mammography. In total, 17% mentioned the occurrence of Sexually Transmitted Diseases (STDs) (15 cases of HPV, 7 of candidiasis, and 1 of syphilis). The evaluation of health services obtained a mean score of 6.3 (SD=3.02), which was satisfactory. Among the common complaints was lack of physicians in a daily basis (76%), hospitals (74%) and equipment/lab for examinations (69%). The access was evaluated as easy (84%), with difficulties at scheduling appointments (40%), distance (23%), and difficulties at transportation (18%). The results from the interviews evidenced three categories: late diagnosis (embarrassment, lack of information, no apparent symptoms); diagnosis moment (fear, association with death, lack of clarifications); and treatment (access difficulty, transport need). **Conclusion:** Although there is appropriation in the analyzed age range in the immunization scheme of residents from rural cities, the other stages of the immunization scheme can be suffered due to the lack of contextualized information and structural conditions of health services that excessively make its access difficult.

Keywords: papillomavirus infections; papillomavirus vaccines; rural population health.

ORAL 08 - Concordance between self-collection and clinical collection in the detection of Gardnerella Vaginalis associated with Human Papillomavirus (HPV)

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Introduction: The human Papillomavirus (HPV) is directly associated with cervical cancer. Although it is pointed out as the main cause of this kind of cancer, there are many other related factors. Among these factors, the presence of co-infections with other microorganisms such as *Gardnerella vaginalis* (GV) bacterium, the target of this study, is significant. Despite a large number of studies in the area, some difficulties are still found in the screening routine of the Brazilian population, for example, the type of collection. An option suggests the use of self-collections followed by a viral identification through Polymerase Chain Reaction (PCR). This option would result in a wider population coverage and a significant gain of sensitivity, besides enabling the concomitant detection of other associated pathogens. **Objective:** To compare the DNA frequency of the *Gardnerella vaginalis* bacterium in positive and negative HPV samples that were stratified through self-collection and clinical collection. **Methods:** Samples of the cervix were collected through self-collection and clinical collection methods, from 51 HPV positive patients and 45 random HPV negative patients, which were stored at -20°C in sample banks for analysis. The patients considered as infected with HPV were positive for at least one of the collection methods, through PGMY-PCR in a previous study. In this investigation, the samples were assessed

regarding the presence of bacterial DNA through conventional PCR, using specific primers for the 16S region of *Gardnerella vaginalis*, according to the Laboratory standard protocol. The detection was done through 1.5% agarose gel electrophoresis, and the product was dyed using ethidium bromate. The Research Ethics Committee (REC) of Universidade Federal do Mato Grosso (UFMS) approved the study, under protocol number 383.072. The results were analyzed using the software Doc It-LS. **Results:** The positive HPV group had a positivity percentage for GV of 78.4, while the negative HPV group had a 66.6% positivity. If only the results were being considered based on the types of collection, in the positive HPV group, self-collection positivity was of 62.7% and 58.8% for clinical collection. **Conclusion:** *Gardnerella vaginalis* confirms what is suggested in literature. It is present most frequently in positive HPV samples. The self-collection method presents results close to those found in the clinical collection, thus indicating that it can be a viable option in the concomitant detection of other factors associated with HPV. This project was carried out at Universidade Federal do Mato Grosso do Sul (UFMS), with financial support of Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), and Fundação de Apoio ao Desenvolvimento do Ensino, Ciência e Tecnologia do Estado (Fundect).

Keywords: papillomavirus infections; co-infection; *Gardnerella vaginalis*.

ORAL 09 - National program of Human Papillomavirus (HPV) immunization and vaccine in Brazil: adopted strategies and success in the results

(Honorable mention in the Oral Presentation Category)

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Introduction: The implementation of Human Papillomavirus (HPV) quadrivalent vaccine in the Immunization National Program (INP) of the Brazilian Ministry of Health began on March 10, 2014. It was based on vaccine efficacy studies to prevent cervical cancer and genital warts. The INP/Ministry of Health implemented the HPV vaccine in the modality of routine immunization in partnership with schools. It was also done in collaboration with some scientific and class societies and the Advisor Technical Committee in Immunizations (ATCI). The extended immunization scheme was adopted for the population aged 11–13 years in three doses administered at 0-, 6-, and 60-month intervals. The nominal registration was recommended at local level for ensuring the vaccination follow-up and active search for possible subjects lacking the subsequent doses, which is done through the system that provides an online graphic and numerical demonstration, with data added to the doses and immunization coverage (IC). **Objective:** To describe the INP/Ministry of Health strategy of implementing the HPV vaccine and the immunization results after the first dose. **Methods:** Ecological descriptive study using technical documents and secondary data of vaccination is available at <http:pni.datasus.gov.br> by INP/Ministry of Health. There was a description of the adopted vaccination strategy and preliminary results after the first vaccine dose in the country per age and Federate Unit (FU). **Results:** The determined IC goal was 80%, simultaneously to the performance of studies, to assess the impact of immunization. The first results regarding immunization coverage showed that more than 4,322,080 first doses of the vaccine were administered in a population estimated to be 5.2 million adolescents aged 11–13 years. The average IC with the first dose was 87.9%, with a variation from 83.41% in the 11-year-old group to 99.26% in the 13-year-old group. In 25 of the 27 FU, the IC surpassed 80%, with the best result in São Paulo (98.75%) and in Santa Catarina (92.64%). **Conclusion:** The immunization strategy with HPV confirms the success of INP in implementing new vaccines. The use of an online tool to follow the vaccination advance and create different assessment reports made possible the situation observance at real time. The partnership of INP/Ministry of Health with State and Municipal Departments of Health, scientific societies, and, mainly, schools was essential to obtain high IC. Ensuring their maintenance and searching for other strategies must be the target of INP to achieve good results in subsequent doses in order to accomplish the vaccination objectives.

Keywords: papillomavirus vaccines; HPV; prevention

POSTER 01 - Incidence of Human Papillomavirus (HPV) relapses in the clinic of sexually transmitted diseases in the years of 2012 and 2013 in Londrina (Paraná State, Brazil)

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Introduction: Londrina is a city in Paraná State, Southern Brazil, 381 km from Curitiba capital. The clinic of Sexually Transmitted Diseases, Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (STD/HIV/AIDS) was implemented in 1992. The current urologist began his activities at such place in 1999, where he became a reference for users from the Brazilian Unified Health Systems (SUS) of Londrina and of the 17th Health Regional, which is comprised of 21 municipalities, in which Londrina is its headquarter. The users are assessed, diagnosed, and receive treatment. Later, they are sent to the services of the Center of Testing and Counseling (CTA) and Basic Health Units to take HIV, syphilis, and hepatitis B and C tests. **Objective:** To assess the relapse incidence of Human Papillomavirus (HPV) lesions after treatment in patients sent to Basic Health Units and to the clinic of HIV/AIDS, where the urologist treated them in the clinic of STD. **Methods:** This is a quantitative research, and data collection was done using clinical assessment and of patients' records in the years 2012 and 2013. The Human Papillomavirus, also known as HPV, is a virus installed on the skin or on mucosae that affects both men and women. It is transmitted sexually, vertically (mother–child), and rarely through fomites. In most cases, the HPV does not present symptoms and it is spontaneously eliminated through the organism. The incubation, i.e., period of time needed so that HPV infection manifestations are seen, is of around 2–8 months, but it can take many years. Treatment depends on factors such as patient's age, lesion type, extension, and location. **Results:** In 2012, 747 men received treatment in the STD clinic. Among these, 456 were diagnosed and received treatment for HPV, 75.9% were men treated in their first consultation, and 24.1% were relapses from 2004 to 2010; the predominant age range was from 20 to 39 years (69.3%), followed by 40–49 years (12.1%), 14–19 years (12.1%), 50–59 years (3.9%), and 60 years or older (2.6%). In 2013, the STD clinic received 980 men. Among them, 418 were diagnosed and received treatment for HPV, 74.2% were men treated in their first consultation, and 25.8% were relapses from 2005 to 2009 and 2011; the predominant age range was from 20 to 39 years (67.5%), followed by 14–19 years (14.6%), 40–49 years (9.8%), 50–59 years (6.7%), and 60 years or older (1.4%). According to some authors, the percentage of men presenting relapses, even after treatment with electrocauterization, was 24.8%. However, 33% relapses have been found in North-American men. **Conclusion:** HPV is highly contagious. One can be contaminated in only one exposure. Therefore, prevention and promotion measures are essential to control the diseases. Patients must be aware of condom use to reduce the risk of transmission to partner(s) who are not infected.

Keywords: incidence; papillomavirus infections; health of men; condylomata acuminada.

POSTER 02 - Adhesion of Human Papillomavirus (HPV) vaccine at health units, in Aparecida de Goiânia, in the year 2014

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Introduction: The Human Papillomavirus (HPV) is the most frequent sexually transmitted disease (STD). It has been estimated that around 50% of the sexually active population will be exposed to HPV at some time of their lives. Each year, about 4,000 women die of cervical cancer in Brazil. HPV vaccine prevents against infections through the viral types present in the vaccine, and, consequently, cervical cancer and disease load decrease. **Objective:** To report the adhesion of HPV vaccine in health units of Aparecida de Goiânia (Goiás State, Brazil), in 2014. **Methods:** An experience report case, describing the evaluation of adhesion to HPV vaccine in health units. In such city, there are 30 health units with vaccine rooms under operation (23 teams of Family Health — ESF; 3 Centers of Full Health Attention — Cais; and 4 Centers of Health). The estimated population to receive the vaccine in Aparecida de Goiânia was of 13,137 girls aged 11–13 years. The Ministry of Health adopted the extended vaccination scheme including three doses (0, 6, and 60 months). An 80% immunization coverage shall be achieved to show the impact of vaccination regarding collective health. Data were extracted from the Information System of Immunization National Program (Si-PNI) in order to assess the adhesion and immunization coverage. **Results:** The implementation of vaccine happened in 30 units of health after the entire team of vaccine rooms had been trained. The higher demand in the health units was in the campaign period. Until now, 2,741 (20.8%) people were immunized through the ESF, 1,276 (9.7%) in Cais, and 605 (4.6%) in Centers of Health. The health units have so far immunized 4,622 girls with a 35.2% immunization coverage; the total of immunized girls at schools is of 6,290 with a 47.9% coverage, resulting in an 83.1% of coverage. The vaccine search in health units was low compared to vaccination at schools. We believe that it happens due to some factors such as lack of parent's information regarding guidance to these adolescents, vaccine adverse reactions released in the media that happened in other states, religious reasons, and fear of inducing adolescents to early sex. **Conclusion:** The vaccine adhesion in health units was not representative, and it reached the goal expected due to the strategy at schools, which

facilitated the vaccine access to adolescents. Health professionals and authorities must be aware of their responsibility with regard to information about the use and efficacy of the vaccine so that parents and adolescents know the importance of this kind of prevention, in order that the adhesion to the second dose be effective. The strategies used in this city promoted access of target people; therefore, it was easier to obtain the immunization coverage that the Ministry of Health determines. These strategies shall be met in the second stage to accomplish the coverage.

Keywords: papillomavirus infections; vaccination; adolescent health.

POSTER 03 - Detection of APOBEC3-mediated hypermutation in Human Papillomavirus (HPV) genome and its role in the infection persistence in a HIV-positive pregnant women cohort

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Introduction: The cervical cancer is the second most frequent cancer among women around the world, and it is considered a public health issue, especially in developing countries. The development of cervical cancer needs the Human Papillomavirus (HPV) infection. The APOBECs enzyme family comprises a group of cytidine deaminases with the ability of adding mutations in sequences of DNA and/or RNA. These enzymes are able to restrict the pathogenesis of several viruses through a DNA edition mechanism known as hypermutation, causing G→A or C→T exchanges. A recent study observed evidence for the DNA edition of HPV16 through these enzymes in samples of pre-malignant cervical lesions; however, their role in the HPV infection and cervical cancer progression is not well established. **Objective:** This study aimed at investigating the presence of APOBEC3-mediated hypermutation in the genomes of high-risk HPV, and also verifying its relation with viral persistence and cytological alterations. **Methods:** Cervical smear samples of patients from a HIV-1-positive pregnant women cohort — who were followed-up by *Programa de Assistência Integral à Gestante HIV-positiva* of *Universidade Federal do Rio de Janeiro* (UFRJ) — were used. For hypermutation detection, the LCR region of HPV types 16 and 58 was widened, and then the technique of Polymerase Chain Reaction (PCR-3D) was used. The PCR-3D products were cloned and sequenced, posteriorly. For hypermutation statistical analyses, the software *Hypermut 2.0* was used. Until now, 15 HPV16 and seven HPV58 samples were successfully extended. There were no sequences of hypermutation in the seven HPV58 positive samples. **Results:** From the HPV16 samples, two presented evidence of hypermutation and sequences with monotonous substitutions – G→A e C→T. Twelve sequences of a sample were identified in the *Hypermut* program analysis as significantly hypermutated. **Conclusion:** It was seen that most of the editions happened in GpG and GpA dinucleotide contexts, which are representations of APOBEC3 enzyme actuation. In one of the patients who presented strongly hypermutated sequences, one evolution of normal cytology for a low-grade lesion (LSIL) during the time of studying was seen. Studies about the relation between HPV and APOBECs enzymes are another step for understanding the progression to cervical cancer. This study was carried out in the *Programa de Genética, Centro de Pesquisa do Instituto Nacional do Câncer* (INCA).

Keywords: papillomavirus infections; HPV; somatic hypermutation; immunoglobulin.

POSTER 04 - Human Papillomavirus (HPV) at Facebook: types of virtual communities and profile of their participants — search for new perspectives to care practice

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Introduction: The search for information encounters a strong ally on the network. Thus, inappropriate information may be described and used. Hence, social networks have a high number of users who are looking for information because they have communities directed to its transmission. Therefore, the present study was created to discuss social network communities that may aid the need of information about Human Papillomavirus (HPV) infection. **Objective:** To classify the kinds of HPV virtual communities available at Facebook and to identify the profile of participants in these communities. **Methods:** This is an exploratory and quantitative research using the communities available at Facebook® as data collection source. The keywords were indexed words: "HPV", "Cervical Cancer", and "HPV vaccine." The selection of communities and their participants followed inclusion and exclusion criteria. The communities presenting more interaction among their participants were chosen. They had 11,864 followers, and only 103 virtual identities (the participants were named, in the study, virtual identities because the same subject can have more than one identity in a virtual environment) were considered participants, i.e., expressing some kind of communication in the communities. The variables regarding virtual identities assessed age, gender, marital status, religion, city/state, profession, relationship interests, page search interest, and HPV carrier or not. **Results:** From the 9 communities, 4 were considered general information communities, 2 women information communities, 1 adolescent information community, 1 was directed to a school group campaign, and 1 focused on virtual campaign. Among these, users from the United States created 4, 3 were from Brazilians, 1 from Greeks, and 1 did not have any identification. The analysis of participants' profile obtained: 87% female and 54% reported their occupations, but the participants were not from the health industry. About 49.5% declared being HPV-infected. Around 34% were from the United States and 8% from Brazil. **Conclusion:** The higher rates for the female gender might be associated with women's search and "culture" of seeking medical care and follow-up through gynecological consultations. There was a higher frequency of North-American profiles than Brazilians. Most of the published information has a scientific basis and is a support to followers. The participants' self-statement as "virus carriers" shows that they are searching more for information than worrying about prejudice. The study shows how important is to disclosure correct data about HPV and the need of health professionals' participation in these communities to assess the "veracity" of the information, as no participants declared being a health professional.

Keywords: papillomavirus infections; uterine cervical neoplasms; social media.

POSTER 05 - Cytopathology as an efficient technique to track anal cancer precursor lesions

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Introduction: Despite the increase of incidence in the last decades, especially in women, recently, anal cancer is not considered a public health issue. Before this neoplasm has an invasive character, precursor lesions that are developed from the Human Papillomavirus (HPV) infection precede this neoplasm. Therefore, they are associated with the practice of receptive anal sex. It is also common in subjects with the human immunodeficiency virus (HIV).**Objective:** The research aimed at quantifying the patients who sought early diagnosis and detection of anal alterations through the anal cytology examination. **Methods:** This is a descriptive study using a quantitative data analysis in private domain bases. The information collection was carried out in a pathological anatomy laboratory in a city of Rio de Janeiro State. The collected and gathered data refer to January 2011 to December 2013. **Results:** At the time of data collection, there was a higher male demand. This gender presented an increasing quantitative each year. By the end, summing up three years, males represented 70%. With regard to the total volume of examinations, 4% represent the unsatisfactory diagnosis due to sample inadequacy for lack or absence of cellular components and 78% were negative for malignant neoplasm. In total, 18% indicate suspicious or positive tests for malignant neoplasm. From such parcel, 88% are men and 12% women. Diagnosis was divided according to nomenclatures of 2001 Bethesda System: Atypical Squamous Cells of Undetermined Significance (ASC-US and ASC-H for cases that high-grade lesions cannot be excluded), low-grade squamous intraepithelial lesion (LSIL), and high-grade squamous intraepithelial lesion (HSIL). For ASC-US diagnosis, the result was 88% among men and 12% among women. The LSIL was also more representative among men, with 96%. With regard to the Atypical Squamous Cells of Undetermined Significance, in which the possibility of a HSIL is not excluded, the representation was significantly higher among women, totaling 100%. However, in the lesion concluded as HSIL, there was a different reality, with men representing 78% of this high-grade precursor lesion. No cases of Invasive squamous-cell carcinoma were diagnosed. Considering the three-year-period of analysis, the total percentage for each diagnosis was: 8% ASC-US, 7% LSIL, 1% ASC-H, and 2% HSIL. **Conclusion:** Although there is a higher incidence of anal cancer among women, this paper found that the cytopathological examination search and precursor lesions were higher among men. The early diagnosis has a preventive profile, because it avoids the progression of these malignant lesions. The investigation was carried out at Laboratório Diagnóstico da América (DASA), from May to June 2014.

Keywords: cytology; anus; diagnosis; incidence.

POSTER 06 - Nursing and educational approach about Human Papillomavirus (HPV): experience report

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Introduction: The Human Papillomavirus (HPV) is an infectious agent expressed in lesions known as *condyloma acuminata* or genital wart. Normally, the virus is sexually transmitted, although other forms of transmission have been identified. **Objective:** To identify women's knowledge during nursing consultation about cervix AC regarding HPV. **Methods:** Experience report based on activities performed by nursing students and a professor in a medical center in Fortaleza (Ceará, Brazil) from February to June 2014. **Results:** Fifty-four gynecological consultations were performed. At data collection (anamnesis) and syndrome approach time, we found that few clients knew about the HPV. Some genital warts were identified in a pregnant adolescent when the prevention was being performed through analysis of the external genital region. In the opportunity, when the result came, it was possible to diagnose that the patient had HPV. **Conclusion:** The accomplishment of educational activities in the *Unidade de Atenção Primária à Saúde* (UAPS) *Dr. Alarico Leite* in Fortaleza, Brazil, was very important, especially in the syndrome approach, because it was possible to guide and inform about what is HPV and how one can "get" it.

Keywords: nursing; papillomavirus infections; health education.

POSTER 07 - Diversity of methylation patterns in long control region (LCR) of Human Papillomavirus 16 (HPV16) and Human Papillomavirus 18 (HPV18) in cervical cancer

(Best paper in the Poster Category)

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Introduction: Despite the promising results achieved by screening of asymptomatic women using Pap smears in the last decades and more recently with the advent of vaccines against Human Papillomavirus (HPV), cervical cancer is still a common disease with about 530,000 new cases and 275,000 deaths per year worldwide. For the cervical cancer (CC),viral integration has been suggested as an essential event during malignant transformation due to the loss of E2 repressive functions over E6 and E7 oncogenes. However, several studies have refuted this concept, since some HPV-related cancers lack integrated viral genome or potentially retain E2 gene functionally, suggesting that other events, such as DNA methylation, may contribute to the deregulation of E6 and E7 oncogenes in the HPV-induced carcinogenesis. **Objective:** To associate the methylation pattern of the CpG binding sites of HPV3' long control region (LCR) with HPV types and variants, clinical staging, and tumor kind. **Methods:** The analyzed samples were obtained from biopsies of patients at the Brazilian National Cancer Institute (*Instituto Nacional de Câncer* — INCA) ambulatory and diagnosed with invasive CC. HPV DNA detection was done through the Polymerase Chain Reaction (PCR), using the consensus primers PGMY09/11. By means of pyrosequencing, 5 CpG biding sites of 3' LCR of HPV16 and HPV18 were analyzed for methylation presence in 24 samples infected with HPV16 (21 invasive CC, 2 normal tissues, and 1 CASKI lineage), and 42 samples infected with HPV18 (39 invasive CC, 2 normal tissues, and 1 HeLa lineage). **Results:** Two groups were observed for HPV16, one including seven samples with high to intermediate methylation level (mean of 5 CpG biding sites of 74–26%) including CASKI (93%), and another group with six samples of low methylation level (20–2%) grouped with the samples without lesions/cancer (3.0% and 0.6%). A high methylation level was observed in adenocarcinoma compared to squamous cells carcinoma. For HPV18,a lower methylation pattern was observed, in which 33 of 38 samples with mean methylation level were lower than 20% and 6 samples with a higher methylation level (20–50%). In HeLa lineage and in normal tissue, a low methylation level was seen with means of 1.2% and 7.6%, respectively. **Conclusion:** A clear difference was observed in the methylation patterns between HPV16 and 18, in which HPV16 tends to have a higher methylation level. Additionally, differences in the methylation level between SCC and adenocarcinomas associated with HPV16 were seen, a finding that was not observed for tumors associated with HPV18, where both tumor types presented similar methylation levels. This work was supported by *Conselho Nacional para Desenvolvimento Científico* e Tecnológico (CNPq), *Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro* (FAPERJ), and *Instituto Nacional de Câncer*/*Ministério da Sáúde* (INCA/MS), *Institutos Nacionais de Ciência e Tecnologia para Controle do Câncer* (INTC).

Keywords: papillomavirus infections; methylation; LCR; uterine cervical neoplasms.

POSTER 08 - Knowledge about Human Papillomavirus (HPV) vaccine

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Introduction: Human Papillomavirus (HPV) is a virus that is closely associated with cervical cancer and genital warts. The cervix malignant neoplasm is the second most frequent in the female population, and fourth cause of women's death for cancer, in Brazil. Therefore, there is a great investment on the primary prevention of this disease, with the development of vaccines against the main kinds of HPV. In the year of 2014, the HPV vaccine was added to the Brazilian National Immunization Calendar for female adolescents aged 11–13 years. Knowledge and acceptability of vaccine by professionals, health users, and their guardians are essential in the national panorama. **Objective:** The aim of this study was to develop an instrument to assess knowledge and acceptance of HPV vaccine in Brazilian adolescents. **Methods:** The study was divided into two phases: instrument formulation and cultural adaptation. A wide bibliographic research about the subject was done to develop the pilot questionnaire, which includes questions about knowledge and acceptability of HPV vaccine. Then, there was an agreement meeting with specialists and professors of Gynecology at *Universidade de São Paulo* (USP) with the aim of presenting the study proposal and discussing the pilot questionnaire in order to complement it. In the instrument cultural adaptation stage, the purpose was to obtain a questionnaire that had been culturally adapted to Brazilians, whose language is Portuguese. An 85% minimum comprehension rate was determined for each question, i.e., only 85% of the total of interviewed people should understand the question. From August 2013 to January 2014, 67 female adolescents aged 9–19 years, with or without sexual activity, presenting menarche; 51 adults together with their daughters in medical appointments; and 33 health professionals working in the adolescent's health area, spontaneously, were interviewed. No restrictions regarding sexual activity, ethnicity, school, and socioeconomic levels of the included patients were determined. **Results:** The questionnaire was prepared and adapted in four versions before the definitive model had been created: HPV Con. Questionnaire, which includes 30 questions distributed into six domains. The first one is about HPV knowledge; the second domain assesses HPV vaccine knowledge; the third covers the barriers concerning HPV immunization; the fourth is about HPV vaccine acceptance; the fifth is about previous history regarding HPV infection; and the sixth is directed to health professionals. Each question has three possible answers (no, yes, and not sure), besides the division in some questions between public or private network and an open field for "other" answers. The questionnaire was applied during three minutes on average. **Conclusion:** The first questionnaire was created adapted to Portuguese language to assess HPV vaccine knowledge and acceptance.

Keywords: knowledge; questionnaires; papillomavirus vaccines

POSTER 09 - Analysis of Human Papillomavirus (HPV) vaccine implementation in a unit of Médico Família program in Niterói: case study

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Introduction: Cervical cancer in Brazil is the second most common kind of cancer among women, estimated in 15,590 cases for 2014 and 5,160 deaths in the year 2011. In 2014, the HPV vaccine was incorporated into the Immunization National Program (INP) for girls aged 11–13 years, and, since 2015, for girls aged 9–13 years. **Objective:** The present study analyzed the implementation of Human Papillomavirus (HPV) vaccine in a unit of *Programa Médico de Família* (PMF) in Niterói (Rio de Janeiro, Brazil), where II Supervised Field Work subject is developed, from the Medicine course curriculum of *Universidade Federal Fluminense* (UFF). **Methods:** This is a qualitative study whose main instruments and research techniques included semistructured interviews with professionals of the PMF unit (physicians, nurses, health community agents, and nursing technicians), Word Free Association test with registered users, and non-participant systematic observation. **Results:** The health local management actions to implement the vaccine at local level were restricted to information about the target population and number of doses, and no occurrence of some kind of capacitation for the entire team was reported. In the Word Free Association test, most users associated "HPV" with the disease, and less frequently with STD. A great majority of interviewed women answered "I

don't know" to the item "HPV Prevention". "Cervical cancer" was associated with preventive/prevent or treatment. Most users reported that they never talked to professionals about cervical cancer prevention forms, although most of them stated having taken the Pap examination, in different periods. Only one-third of the interviewed women mentioned having talked to a PMF professional about the examination. A majority of them has already heard about the HPV immunization campaign, and TV was their main source. **Conclusion:** Stages involving population sensitivity and involvement of health workers in the incorporation of new technologies are part of the policy implementation process and essential factors to accomplish the objectives, which is a less privileged aspect in the vaccine implementation in the studied case. HPV immunization without a great involvement of all actors might create unreal expectations and, overall, mobilize the society with regard to the current prevention policies.

Keywords: papillomavirus infections; papillomavirus vaccines; family health.

POSTER 10 - Human Papillomavirus (HPV): prevalence and genotypes found in positive and negative women with human immunodeficiency virus 1 (HIV-1) in the University Hospital of Universidade Federal do Rio Grande (HU-FURG) and in the Basic Health Unit of Rio Grande (Rio Grande do Sul)

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Introduction: Human Papillomavirus (HPV) is the main risk factor for cervical cancer appearance, mainly in the presence of genotypes with high oncogenic risk. According to *Instituto Nacional do Câncer* (INCA), cervical cancer is the third most incident tumor in the female population in Brazil. **Objective:** To estimate HPV prevalence and its genotypes in two different clinical samples of women attended in the clinics of Gynecology and Obstetrics at the University Hospital (UH) and in a Basic Health Unit (UBS) in the city of Rio Grande (RS). **Methods:** 152 samples of cervical cells from women attended in the UH and 24 samples of cervical biopsies from women attended in the UBS were collected from February 2013 to May 2014. The samples were analyzed to verify the presence of HPV and genotypes through Polymerase Chain Reaction (PCR) fixed with MY09/11 and GP05/06 primers, type-specific PCR, and sequencing. The oncological cytology results from samples were obtained in the medical record. All patients answered a self-applicable questionnaire and signed the free informed consent. **Results:** From the 152 samples of the analyzed cervical cells, 27.6% (n=42) were positive Human Immunodeficiency Virus 1 (HIV-1) and 72.3% (n=110) were negative HIV-1. The mean age of patients was 28.7 years (SD±11.4), with the variation in age from 14 to 69 years. Among all patients, 42% reported not using condom during sexual intercourse and 57% did not know about HPV infection. In 25% of the samples (n=38), the HPV-DNA was found. There was a 29% (n=11) prevalence among positive HIV-1 women, and a 71% (n=27) among negative HIV-1 women. None of the oncological cytology examinations from 38 samples of positive HPV cervical cells showed the presence of a HPV-related lesion, differently from the 24 samples of biopsies collected at UBS that presented high-grade lesion cytopathological alterations (100%; n=24). The mean age of participants attended in the UBS was 35.5 (SD±9.4); with the variation in age from 16 to 56 years. In total, 66% of the patients reported not using a condom in the sexual intercourse and 21% did not know about the HPV infection. The HPV-DNA was seen in all samples of the analyzed biopsies (100%; n=24). With regard to HPV genotyping, the genotypes found in samples without cytopathological alterations were HPV16 (n=8); –66 (n=4); –45 (n=2); –44, 58, 31, 35, and 85 (n=1). The genotypes in samples of biopsies with alterations were HPV16 (n=15); –58 (n=2); –53 (n=1). **Conclusion:** The high HPV prevalence found in the PCR emphasizes the importance of this method of diagnosis. The HPV DNA detection tests associated with the cytopathological analysis may be useful tools in the prevention, identification, and follow-up of women with risk of developing cervical carcinoma.

Keywords: polymerase chain reaction; papillomavirus infections; HIV-1

POSTER 11 - Training multiplier youngsters to combat sexually transmitted diseases and Acquired Immunodeficiency Syndrome (AIDS)

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Introduction: HIV cases have recently increased among young people aged 13–24 years. We have seen the need of creating groups to discuss the theme among youngsters, because paired communication is more effective. **Objective:** To train adolescents that know specialists of the issue regarding Sexually Transmitted Diseases and Acquired Immunodeficiency Syndrome (STD/AIDS), pregnancy in adolescence, and prevention methods with the aim of making them multipliers. **Methods:** A participative and investigative methodology was used as it will be based on the participants' own experiences and knowledge, to discuss, make people aware, and give a new significance to the issue. The sample included 20 adolescents studying in the first grade of high school, of both genders, from a public school in the city of Promissão (São Paulo, Brazil). Data were obtained through a questionnaire and were analyzed using descriptive statistics. The control group sample had a total of 80% girls and 20% boys. **Results:** With regard to information collection about sexuality, around 96% mentioned parents, friends, and school. With regard to STDs contagion, 41.67% answered incorrectly in the first questionnaire, whereas in the second questionnaire, 26.32% answered incorrectly. About 80% did not answer that condom is the most efficient way to avoid an STD; however, around 50% do not know how to identify it. The sample in the test group, where meetings are developed, has 60% girls and 40% boys. Information about STD/AIDS, according to the first questionnaire use, is obtained from parents (35.7%), friends (25%), and school (25%). The second questionnaire showed a 15% increase in the report of STD information accomplishment at school (41.38%). With regard to STD/AIDS transmission ways, 51.6% of the interviewed subjects answered incorrectly to such question; in the second questionnaire, only 8.89% answered incorrectly. Therefore, there was a 41.72% decrease reported. When participants were asked about STD symptoms, 70% did not know how to answer it in the first questionnaire; on the other hand, in the second questionnaire, only 13.33% of them did not answer. Thus there was a 56.67% decrease reported. Young people know that condom and contraceptives prevent an undesired pregnancy, and the first analysis showed that 52.2% of them mentioned female condom and 47.8% contraceptives. The second questionnaire showed that 72.22% answered female condom, with a 20% increase compared to the first datum. In the first questionnaire, 63.4% of youngsters declared that condom is the most efficient way to avoid an STD. But, in the second questionnaire, there was an increase in this value to around 20%, i.e., 83.33% recognized that condom is the best method. **Conclusion:** There was a significant increase in the level of knowledge and involvement of youngsters in STD/AIDS-related issues.

Keywords: education; sexually transmitted diseases; acquired immunodeficiency syndrome.

POSTER 12 - Gardnerella Vaginalis AND Human Papillomavirus (HPV) co-infection in women infected with the Human Immunodeficiency Virus (HIV) or carriers of Acquired Immunodeficiency Syndrome (AIDS) in a care service specialized in HIV/AIDS in Amazon, Brazil

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Introduction: *Gardnerella vaginalis* infection in Human Immunodeficiency Virus (HIV)-infected women can increase genital infectiousness and susceptibility, favoring co-infections such as Human Papillomavirus (HPV). **Objective:** The study sought to determine the prevalence of *G. vaginalis* and HPV co-infection in women with HIV/AIDS and its associated factors. **Methods:** Cross-sectional study (2009–2011) of HIV-infected women or carriers of the Acquired Immunodeficiency Syndrome (AIDS) in an HIV/AIDS Specialized Service (SAE), in Amazon, Brazil. A questionnaire including sociodemographic, behavioral, and clinical variables was used. The vaginal content of Pouch of Douglas was collected for *G. vaginalis* diagnosis through Gram staining, cervical sample for HVP test/hybrid capture 2v2, and oncotic cytology. The analysis included frequency distribution; median and interquartile interval. The infection prevalence rate was measured by positive test presence (9% CI). The association tests were χ^2 or Fisher's test. The Research Ethics Committee approved the paper (number 1962-2009/FMT-HVD). **Results:** From the 374 women, 304 (81.3%) were included in the study. *G. vaginalis* was found in 121 (36.3%) cases and HPV in 187 (52.6%). From the total, 75 (24.7%) were co-infected with *G. vaginalis* and HPV, 12 (17.4%) had grade I Cervical Intraepithelial Neoplasm (CIN), 1 (1.4%) had CIN II/III; 23 (31.1%) presented TCD4+ lymphocytes ≤200 cells/mm^3, and 40 (56.3%) had HIV-1 viral load >1,000 copies/mL. The most frequent age range was 30–39 years (n=34; 45.3%), mean: 18–29 years (n=294; 38.7%); 35 (46.7%) studied for more than 9 years; 36 (48%) were married/marital familiarity; 46 (61.3%) had an income of until 1 minimum salary; 68 (90.7%) were not smokers; 38 (51.4%) had their first sexual intercourse at the age of >15 years; 51 (85%) used condoms with their partners; 48 (64%) used contraceptives; 14 (18.9%) were sex professionals; 46 (66%) had anal sexual

practice; 2 (2.7%) were homosexuals; 47 (62.7%) presented vaginal secretion; 43 (57.3%) had vaginal pruritus; 40 (53.3%) had pelvic pain; 13 (19%) had CIN grades I and II/III; 23 (31.1%) presented TCD4+ cell counting ≤200 cells/mm^3; and 61 (82.4%) had AIDS. **Conclusion:** The *G. vaginalis* and HPV co-infection associated with CIN is prevalent among women with HIV/AIDS in the studied SAE. Tracking of vaginosis, STD, and anti-HPV immunization shall be integrated for preventive measures to sexual and reproductive health of this female population.

Keywords: *Gardnerella vaginalis*; papillomavirus infections; HIV; acquired immunodeficiency syndrome; co-infection; women's health.

POSTER 13 - Human Papillomavirus Immunization: a timeless indication

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Introductio: Human Papillomavirus (HPV) is a sexually transmitted virus, considered one of the most frequent sexually transmitted diseases (STDs) worldwide. These are viruses capable of inducing skin or mucosa lesions. There are more than 200 kinds of HPV, of which about 45 infect the male and female anogenital region. On average, 20–50% of sexually active women are infected somehow with the virus. Since the HPV infections are not always correctly diagnosed, and there is a prevention impossibility in 100% of the cases with the use of condom, other possible ways of prevention need to be studied. As in other viral infections, the development of a vaccine against HPV infection was promising. A study in adolescents (boys and girls aged 9–15 years) demonstrated an excellent immunological reaction with high concentrations of antibodies for a long time, thus its possible efficacy in this group. **Objective:** This paper aimed at providing good results with regard to the decrease in lesion relapse, both in the skin (vulva or cervix) in patients with initial diagnosis of condylomata, or grades I and II Cervical Intraepithelial Neoplasms (CIN), who were later immunized against HPV. **Methods:** One patient who was initially diagnosed with vulvar condylomata underwent several chemical cauterizations with 90% trichloroacetic acid and electrocauterization, and four patients with initial diagnosis of I and II CIN, initially submitted to high-frequency surgery (HFS) if recurrent I and II CIN, presented, during follow-up, lesion relapse. Since these patients were young, aged 19 and 32 years, with no children, the HPV quadrivalent immunization in three doses was chosen, with biannual follow-up including preventive collection and coloscopy. **Results:** After two years following-up these patients, there was no relapse of vulvar or cervix lesions. The patient carrying vulvar condyloma was the only who still presented oral lesions, even after immunization. However, she reported that the warts in the oral cavity were already there before the beginning of vulvar lesions treatment with chemical and electric cauterization and "she was ashamed of reporting the presence of oral lesions". This fact made us reflect on including the oral cavity test when dealing with HPV patients. **Conclusion:** Based on the presented facts, HPV immunization in patients with lesions, regardless of the age, becomes an important tool in the therapeutic complementation, thus decreasing the risk of lesion relapse. This study is still being carried out in the clinic of Cervical Patology of Hospital Escola Álvaro Alvim, at Faculdade de Medicina de Campos.

Keywords: papillomavirus infections; condylomata acuminata; cervical intraepithelial neoplasm.

POSTER 14 - Human Papillomavirus (HPV) knowledge and cervical cancer prevention in adolescents immunized against HPV: an integrative review

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Introduction: Human Papillomavirus (HPV) types 16 and 18 are responsible for about 70% of the cervical cancer cases worldwide, and types 6 and 11 are found in 90% of the genital warts. Immunization is among the most important prevention measures of HPV transmission. Until now, two vaccines have been developed and registered in Brazil: quadrivalent (protects against HPV6, 11, 16, and 18) and bivalent (protects against HPV16 and 18). In 2014, the Brazilian Ministry of Health, through the Immunization National Program (INP), extended the Immunization National calendar with the introduction of quadrivalent HPV vaccine in the Brazilian Unified Health System, with the purpose of preventing cervical cancer and genital warts together with tracking actions. Its implementation will be gradual and is being initially offered with no charges for female adolescents aged 11–13 years. **Objective:** The present study aimed at analyzing the quality of information regarding such theme, the gaps in this production, and providing a knowledge synthesis following evidence levels and, from data domain, allowing the planning of new scientific productions. **Methods:** This is an integrative review study, carried out in June 2014 in such databases: Medline, Lilacs, PubMed, Embase, Scopus, and Web of Science. The theme was established and the following question was chosen: "What are the publications about HPV knowledge and cervical cancer prevention of adolescents aged 11 to 13 years, immunized against HPV?" The five databases were concomitantly researched. The keywords were used in Portuguese (DeCS): (*Vacinas contra Papilomavírus* or *Vacinas contra HPV* or *Vacinas contra Papilomavírus* Humano) and (*Adolescente* or *Adolescentes*) and (*Criança* or *Crianças*) and Knowledge, attitudes, and health practices filter. In English (Mesh): (Papillomavirus Vaccines or Human Papillomavirus Vaccines or Human Papilloma Virus Vaccines or HPV Vaccines) and (Child or Children) and (Adolescent or Teenagers or Teen or Teens) and (Health Knowledge, Attitudes, Practice or Knowledge, Attitudes, Practice). Studies with articles or abstracts published and indexed in the mentioned databases in the last 5 years followed the inclusion criteria. Articles that did not associate the theme with the studied population were excluded. For the publication selection, each title and abstract was thoroughly read to confirm if they considered the focus of this investigation and if they met the determined inclusion and exclusion criteria. **Results:** Based on the determined strategies, the research resulted in 453 publications and, after reading each title and abstract, all publications were excluded for not answering the paper questioning and not meeting inclusion criteria. **Conclusion:** The review enabled the identification of a knowledge gap on the investigated theme, and points out the need of further studies about such issue.

Keywords: HPV; papillomavirus vaccines; adolescent.

POSTER 15 - Recurrent Laryngeal Papillomatosis: immunohistochemical and molecular study

(Honorable Mention in the Poster Category)

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Introduction: Human Papillomavirus (HPV) are high-prevalence pathogens that determine persistent infections in human beings and are involved in the genesis of benign and malignant epithelial lesions of the anogenital tract, respiratory tract, and skin. HPVs 16 and 18 are associated with the development of cervical, head, and neck carcinoma; and HPVs 6 and 11 are the most frequently detectable types in the recurrent laryngeal papillomatosis (RLP) and anogenital warts. Among many factors, variations in the immune response are suggested as justifications for the different behaviors of these lesions with similar etiology. In HPV infections, an effective cellular immune response comprised of T CD4+ cells of Th1 profile and T CD8+ cells has a main role in its resolution and control. **Objective:** To perform an immunohistochemical and molecular study through HPV genotyping in patients with RLP and nasal and oral papilloma. **Methods:** The sample included 125 patients cared for at Hospital Santa Izabel (Salvador, Bahia, Brazil), from 2004 to 2012. The immunophenotyping study of inflammatory infiltrated cells was done using monoclonal antibodies and immunohistochemical reaction with the EnVision™ System. The Kit INNO-LiPA HPV Genotyping Extra (Innogenetics, Ghent, Belgium) was used for HPV typing, enabling the identification of 28 high- and low-risk HPV types. **Results:** In nasal cavity lesions, there were 11 cases, immunomarking for 7 CD3 (63.6%) and 5 CD8 (45.5%) was semi-quantified as moderate in most of the cases, CD68 evidenced the same scores in 3 (27.3%) cases with discrete, moderate and severe degrees. The auxiliary T lymphocytes (CD4) were negative in 10 (90.9%) cases. In the oral cavity (7), CD3 was positive in 5 (71.4%) and CD8 in 4 (57.1%). Immunomarking was negative for CD4 in most of the lesions, whereas it was moderate in 3 (42.8%) cases for CD68. In the larynx (18), CD4 15 (83.3%) and CD68 were negative in the majority of cases. CD3 was semi-quantified as moderate in 9 (50.0%), and CD8 as discrete in 8 (44.4%). In 125 of the analyzed cases, HPV was found in 106 patients (84.8%), 9 (7.2%) were invalid, and the HPV was not seen in 10 (8.8%). HPV16 was the most prevalent, being found in 50.0% of the cases, followed by 11 (43.4%), 52 (36.8%), 6 (34.9%), and 58 (30.2%). With regard to oncogenic HPV types, HPV16 was seen more prevalent in the larynx in 33.8% of the cases. **Conclusion:** A low expression of T CD4+ cells was seen, thus indicating that a possible deficiency of immune cellular response mediated by T-cells would facilitate the HPV infection persistence. The lower frequency of CD68 cells may have contributed for a less efficient immune cellular response in the

studied lesions. The HPV infection frequencies through the Polymerase Chain Reaction (PCR) in RLP, oral, and nasal cavity papilloma was 88.2, 85.3, and 73.9%, respectively. **Acknowledgements:** FIOCRUZ and *Instituto Nacional de Ciência e Tecnologia das Doenças Associadas ao Papilomavírus*.

Keywords: HPV; recurrent respiratory papillomatosis; papillomaviridae; larynx immunohistochemical.

POSTER 16 - Human Papillomavirus (HPV) oral infection in subjects infected with the Human Immunodeficiency Virus (HIV)

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Introduction: Human Papillomavirus (HPV) is one of most common sexually transmitted viral agents and is usually associated with anogenital diseases. They are classified as oncogenic (high risk) and non-oncogenic (low risk). Currently, there are only few studies about oral infection through this virus. A relevant question in the HPV oral infection is it can be developed through oral-genital contact or self-inoculation, or even be considered an independent event. Knowledge of a virus group tropism is a very important biological factor to understand how the viral variants of the same kind of HPV are developed in different ecological niches and how they induce pathogenic consequences in their hosts. Evidences are increasingly associating high-risk HPV presence of genital tract neoplasms, especially type 16, with oropharyngeal cancers. Some studies show that the prevalence of HPV oral infection is higher in subjects infected with the human immunodeficiency virus (HIV) than in negative HIV subjects. **Objective:** The aim of this study was to detect and typify HPV infection in oral smears of HIV seropositive patients, to analyze the viral genome of less frequent types in the oral mucosa and compare the obtained results to a negative HIV population. **Methods:** The study population comprised 75 HIV-infected subjects and the control group included 120 HIV negative subjects. Demographic and behavioral factors were obtained through a questionnaire. After DNA extraction from the samples using a commercial kit, HPV DNA detection was performed using MY09/MY11 generic oligonucleotides. The analysis of Restriction Fragment Length Polymorphism (RFLP) was performed to determine the HPV types. **Results:** According to the results obtained until now, we have seen that in 75 samples of oral mucosa smears of HIV positive patients, 53 (70.7%) were MY positive. Thus, 31 (77.4%) samples were typified through the used technique and, among them, 10 (18.9%) presented more than one HPV type. A total of 54 HPV types were found in these 31 positive samples: 23 samples presented undetermined HPV types (42.59%), 21 samples included HPV53 (38.88%), type 6 was found in 3 (5.55%), type 82 in 2 (3.70%), and type 52 in other 2 (3.70%). Types 45 (1.85%), 68 (1.85%), and 84 (1.85%) were each seen in one sample. From the 120 samples of oral mucosa smear of HIV negative subjects, 55 (45.8%) were positive MY. **Conclusion:** Regardless the HIV infection, both groups presented high frequency of HPV in the oral mucosa, and the prevalence of undetermined types reflects the presence of infection though non-genital types.

Keywords: papillomavirus infections; HIV; polymerase chain reaction.

POSTER 17 - Anal cytology: correlation between age range and diagnosis of cancer precursor lesions

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Introduction: Anal cytology aims at tracking cancer precursor lesions in the initial stage of Human Papillomavirus (HPV) infection. The receptive anal sex practice is associated with the development of this neoplasm. Subjects who began practicing it early, as well as those with multiple partners, and biological risk factors, ensure a higher possibility. The use of anal cytology has been more frequently in the last decades after registrations of cancer increase. **Objective:** To describe the profile of patients who took the anal cytology test, and to correlate their ages to diagnosis of positivity for malignant neoplasm. **Methods:** This is a descriptive study with a quantitative data approach in private domain bases. The survey was performed in a Pathological Anatomy Laboratory in Rio de Janeiro. Collected and compiled data refer to the period of January 2011 to December 2013. **Results:** There has been a 1.6% increase in average of the volume of examinations each year. There was a higher search of the male people who presented an increasing annual quantitative, representing a total of 70%. The female people had a different result, with a decreasing search and a total of 30%. Men had a mean age of 38 years and women, 41 years, with a general variation in age from 17 to 82 years. With regard to results, the total percentage for each diagnosis was unsatisfactory for evaluation due to cellular material inadequacy (4%) and negative for malignant neoplasm (78%). The remaining rate of 18% was divided into suspicious or positive results for pre-malignant or malignant alterations: Atypical Squamous Cells of Undetermined Significance (ASC-US) (8%) and ASC-H (High-Grade Squamous Intraepithelial Lesion cannot be excluded) (1%), Low-Grade Squamous Intraepithelial Lesion (LSIL), (7%) and High-Grade Squamous Intraepithelial Lesion (HSIL) (2%). The following data are presented according to the highest indices of lesion per age range. Higher incidence (50%) in patients aged 21–30 years was registered for ASC-US diagnosis. Patients aged 31 and 40 years had a 30% record. With regard to ASC-H diagnosis, there was an expressive registration of 100% for patients aged 81 and 90 years. The LSIL had a 62% incidence for the age of 31–40 years, followed by 20% for the age range of 21–30 years. No cases of cancer were recorded; however, High-Grade Squamous Intraepithelial Lesion (HSIL) was prevalent in very different age ranges, despite its relatively low percentage. Patients aged 51–60 years and 71–80 years had a 22.3% rate. This same number was also seen for younger patients aged 21–30 years. **Conclusion:** The periodic collection of anal material to analyze cells, mainly for risk subjects, might retard the evolution of initial lesions for more severe precursor lesions. The study was performed at Lab. Diagnóstico da América (DASA).

Keywords: cytology; anus; intraepithelial neoplasm.

POSTER 18 - Prevalence and association of Human Papillomavirus in oral cavity and oropharynx carcinomas

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Introduction: The Human Papillomavirus (HPV) is a virus with great prevalence in carcinoma of the cervical region, as well as of other genital areas, but its prevalence and etiological relation in oral cavity and oropharynx carcinomas are being investigated. Several studies have reinforced this idea in the past years. When the virus is associated with other factors, such as smoking and alcoholism, the risks of carcinoma appearance in the oral cavity and oropharynx are increased. The presence of HPV16 genome increases such risk up to 50%. Unprotected oral sex or unprotected sex practice are very well described ways that lead to an increase in virus spreading and natural change of its location, since HPV is more common in the genital region. **Objective:** The study aimed at developing a theoretical basis for the development of a research project that is needed in the Central West region, with the purpose of estimating the HPV prevalence in head and neck carcinomas of patients cared at Hospital Araújo Jorge (HAJ), in Goiânia (Goiás, Brazil). **Methods:** This is a systematic review in literature from a bibliographic survey in LILACS and MEDLINE databases. The following keywords were used: *Oral cavity carcinoma*; *oropharynx carcinoma*; *Human Papillomavirus*. Papers that used the Polymerase Chain Reaction (PCR) as the HPV detection method and that associated the findings with carcinoma clinicopathological factors were included. **Results:** 13 studies that evaluated 1,216 cases of oral cavity and oropharynx carcinoma jointly were reviewed, and HPV was found in 36.45% of the cases, on average. In the 13 studies, HPV16 was the most prevalent genotype, present in 22–100% of HPV positive cases. There were more cases in male subjects, which also happened in cases where HPV genome was seen. The lower age mean in positive HPV cases was described in all studies. An inverse association between HPV presence and habits like smoking and alcoholism has been reported; therefore, HPV seems more prevalent in tumors of non-smokers and non-alcoholics. Thus, HPV was associated with smoking and alcoholism in some studies. A better prognosis and less recurrence has been reported for oral cavity and oropharynx carcinoma that present the HPV genome, as well as a higher prevalence of these tumors in younger subjects. **Conclusion:** The incidence of these tumors in young subjects has been increasing with time. They have been reported in studies carried out about oral cavity and oropharynx carcinomas association with HPV. Hence, and considering the high prevalence of HPV in oral cavity and oropharynx carcinoma in male subjects, it is extremely important that the HPV immunization campaign be extended to the male gender, as well. Recently, in Brazil, the HPV immunization campaign is exclusive to women, aged 11–13 years.

Keywords: papillomavirus infections; cancer; mouth; pharynx.

POSTER 19 - Anogenital Human Papillomavirus infection in men attending a dermatology clinic

(Honorable Mention in the Poster Category)

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Introduction: Human papillomavirus (HPV) infection causes one of the most prevalent sexually transmitted diseases (STDs) worldwide. The pathological and epidemiological features of HPV infection have been studied extensively in women due to the prevalence of this disease and its well-established association with cervical cancer. However, HPV infection is also an important concern in men due to the risk of transmission to women and the disease burden. **Objective:** We aimed at studying anogenital HPV infection in men. **Methods:** To achieve our goal, we evaluated a case series of 71 men attending a dermatology clinic in Brazil during an 18-month period with anogenital HPV infection. Clinical manifestations, laboratory findings, and sociodemographic factors were evaluated. Biopsy samples were subjected to histopathological analysis, generic and type-specific viral identification, and $p16^{INK4a}$ quantification. **Results:** The average age at diagnosis was 33 years. We observed little variation in identified viral types (HPVs 6, 11, 16, and 53), despite the inclusion of 16 HIV positive patients. The presence of high-risk HPV was associated with receptive anal sex ($p<0.05$), lesion malignancy ($p<0.01$), and $p16^{INK4a}$ expression ($p<0.05$). The HIV positive was correlated with HPV16 infection, presence of perianal lesions and high-grade lesions ($p<0.05$) diagnosed at a younger mean age than HIV negative patients ($p<0.05$). **Conclusion:** Our results demonstrate the unequivocal relationship between high-risk HPV infection and presence of high-grade lesions, HPV16 tropism in the anal epithelium, and the role of receptive anal sex as a risk factor for the development of high-grade anal lesions, which are early seen in HIV positive men who have sex with men. As high-grade lesions showed $p16^{INK4a}$ negativity but were associated with HPV16 presence, we believe that $p16^{INK4a}$ is a promising biomarker, but its use remains controversial requiring further research. The financial support was granted from Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro (Faperj) (APQ1/2012) and Pró-Reitoria de Pesquisa, Pós-Graduação e Inovação da Universidade Federal Fluminense (Proppi/UFF).

Keywords: papillomavirus infections; cancer; anus; HIV; sexually transmitted diseases; polymerase chain reaction; genes, p16.

POSTER 20 - Can Human Papillomavirus (HPV) detection in oral mucosa suggest genital infection?

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Introduction: Human papillomavirus (HPV) is the etiological agent of cervical and anal cancers, and its pathogenic process has been elucidated, but little is known concerning the etiology of the oral infection and oral cancer. **Objective:** The aim of this study was to investigate whether oral infection could point out genital infection, determining the presence of HPV in both sites of infection. **Methods:** Oral scrapes from healthy mucosa and genital smears of condylomata lesions were evaluated by molecular methods. A hundred and ten samples from oral and genital sites were collected from patients attending the Sexually Transmitted Diseases Clinic from *Universidade Federal Fluminense*. **Objective:** To screen and type HPV DNA, generic MY09/11 Polymerase Chain Reaction (PCR), and type-specific PCR, followed by the restriction fragment length polymorphism (RFLP). **Results:** HPV was detected in 85.5% of genital lesions (n=55) and in 43.6% of oral mucosa samples. In 13 of the 55 (23.6%) studied cases, both sites were infected. The agreement between genital and oral types was high: 9 cases showed the same infected types in both mucosa. HPV11 were the most prevalent (n=7), followed by HPV6 (n=2) and HPV45 (n=1). Two cases showed mixed infections with HPV6/11 and one HPV11/45. Oral infection, separated by male and female, showed statistical significance (p=0.004), with markedly higher prevalence of oral infection on men. **Conclusion:** Our results indicate that HPV oral detection can suggest genital infection in half of the cases, but further studies are required to elucidate the natural history of HPV infection, mainly with regard to oral lesions.

Keywords: papillomavirus infections; mouth; genital; polymerase chain reaction.