Actas Dermosifiliogr. 2017;108(1):65–66

ACTAS
Dermo-Sifiliográficas

Full English text available at
www.actasdermo.org

VÍDEOS DE CIRUGÍA DERMATOLÓGICA

Screening for Anal Intraepithelial Neoplasia: High-Resolution Anoscopy-Guided Biopsy of the Anal Canal☆

Despistaje de la neoplasia intraepitelial anal. Biopsia de canal anal guiada por anoscopia de alta resolución

J.B. Repiso-Jiménez,* L. Padilla-Espana, T. Fernández-Morano, M. de Troya-Martín

Área de Dermatología, Hospital Costa del Sol, Marbella, Málaga, España

The estimated annual incidence of anal cancer in Spain is 0.2 cases per 100 000 population,[1] mainly affecting women. High grade anal intraepithelial neoplasia (AIN) is considered to be the precursor of squamous cell cancer of the anus,[2] and an increase in the number of cases has been observed in men who have sex with men (MSM). The incidence of in situ anal cancer in men with human immunodeficiency virus (HIV) infection is 60 times higher than in the general male population, and anal cancer, though not an AIDS-defining malignancy, is 1 of the leading causes of cancer-related death in this population.[3] Human papillomavirus (HPV) acquired through sexual contact has been implicated in the etiology and pathogenesis of AIN. Persistent high-risk HPV infections (particularly viruses 16 and 18) are associated with squamous cell anal cancer (the most common cancer of the anal canal) and its precursor lesions. These viruses have the capacity to integrate their genetic material into the genome of the epithelial basal cell, and through overexpression of oncoproteins E6 and E7 to interfere with programmed cell death in the same way as occurs during genesis of cancer of the cervix. Anal cytology and genotyping for these viruses are the main screening tests employed in at-risk populations,[4] complemented by subsequent biopsy of suspicious lesions.[5]

The video shows the complete screening process for AIN. In an initial phase, blind anal cytology is taken, with a sample for HPV genotyping. Hybrid capture is the most widely used test and can distinguish between high- and low-risk viruses. Anal cytology is reported by the pathologist following the 2001 Bethesda system. HPV identification in anal samples is useful in cases in which cytology is negative or inconclusive. To take a cytology sample, the patient is placed in a lateral decubitus position and a dacron swab or cytology brush is inserted about 4 cm into the anal canal. Circular movements are then made as the device is withdrawn over at least 20 seconds. The exudate is spread onto a glass microscope slide and is fixed with an alcohol solution. To identify HPV, the brush is inserted and rotated and is then placed in a container with a specific transport medium. These 2 tests enable us to select patients who are candidates for anoscopy.

High-resolution anoscopy (HRA), performed after patient preparation with cleansing enemas, is the optimal test for the diagnosis of AIN, as it allows us to take targeted tissue samples. HRA involves visualization of the anal canal using a gynecological colposcope after the application of acetic acid. The patient is placed in the lateral decubitus position and a gauze swab coated in 3% acetic acid solution is inserted and left in place for 3 to 5 minutes. After removing the gauze swab, the anoscope is inserted and the colposcope is focused. The anoscope is rotated as it is gradually

☆ Please cite this article as: Repiso Jiménez JB, Padilla España L, Fernández Morano T, de Troya Martín M. Despistaje de la neoplasia intraepitelial anal. Biopsia de canal anal guiada por anoscopia de alta resolución. Actas Dermosifiliogr. 2017;108:65–66.

* Corresponding author.
E-mail address: boscorepiso@gmail.com (J.B. Repiso-Jiménez).

withdrawn in order to visualize any suspicious acetowhite areas, which appear below the dentate line. Acetic acid reveals epithelial neoplasms and serves as a guide for biopsy mapping. A complementary technique employs Lugol solution (elemental iodine and potassium iodide), which stains normal epithelium and is often used to delimit lesions prior to treatment. When suspicious areas are identified, topical anesthesia is applied with a solution of 10% tetracaine plus 0.1 μg/ml epinephrine) and Wolf forceps are used to take samples for histology. Bleeding is usually minimal and can be controlled by applying a swab moistened in an 80% solution of trichloroacetic acid. Depending on the grade of neoplasia reported by the pathologist and on the extension of the lesions, the patient enters a follow-up program is referred to proctology for treatment of the lesions.

Anal cytology and HPV detection in general are indicated in men and women who practice receptive anal sex or who have condylomas in the perianal region.[5] This is especially important in patients with immunosuppression of any cause, and in HIV-positive patients independently of their immune status. Screening every 2 to 3 years in in HIV-negative MSM and annually in HIV-positive MSM is considered optimal and cost-effective for the prevention of cancer of the anus. A history of HPV-related genital neoplasms in women is also considered an indication for screening for AIN. High-resolution anoscopy is indicated in patients with atypia on anal cytology, and is essential in patients with high-grade atypia. Anal cytology and HPV detection have no known contraindications. Targeted biopsy of the anal canal using high-resolution anoscopy is typically a simple procedure and is usually painless and well tolerated. It is contraindicated in anticoagulated or poorly collaborative patients and in those with known allergy to topical anesthetics, though the use of such anesthetics may be omitted in these latter cases, as they are not essential for taking biopsies. The drawbacks of the test are the same as for any minor surgical procedure and include vasovagal episodes in predisposed individuals and intense bleeding due to inappropriate use of the biopsy forceps. Slight spotting and discomfort after defecation is normal in the days after performing the biopsy.

Anal cytology and high-resolution anoscopy are necessary techniques in all clinics with a screening protocol for anal cancer. Screening and treatment protocols for AIN are still not well established and must be adapted to the capacity of each center and to the type of population attended. The long-term influence of the initiation of a screening and treatment protocol for AIN on anal cancer in the at-risk population is unknown.

Appendix A. Supplementary data

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.ad.2016.07.014.

References

1. Curado MP, Edwards B, Shin HR, Storm H, Ferlay J, Heanue M, et al. Editors. Cancer Incidence in Five Continents, Vol. IX, Lyon: IARC Scientific Publications N.° 160. 2007. [accessed August 29, 2016]. Available at: http://www.iarc.fr/en/publications/pdfs-online/epi/sp160/CI5vol9.pdf
2. Kreuter A, Potthoff A, Brockmeyer NH, Gambichler T, Swoboda J, Stücker M, et al., German Competence Network HIV/AIDS. Anal carcinoma in human immunodeficiency virus-positive men: Results of a prospective study from Germany. B J Dermatol. 2010;162:1269–77.
3. Rabkin CS, Yellin F. Cancer incidence in a population with a high prevalence of infection with human immunodeficiency virus type 1. J Natl Cancer Inst. 1994;86:1711–6.
4. Kreuter A, Brockmeyer NH, Altmeyer P, Wieland U. Anal intraepithelial neoplasia in HIV infection. JDDG. 2008;6:925–33.
5. Esser S, Kreuter A, Oette M, Gingelmaier A, Mosthaf F, Sautter-Bihl ML, et al. German-Austrian guidelines on anal dysplasia and anal cancer in HIV-positive individuals: Prevention, diagnosis, and treatment. J Dtsch Dermatol Ges. 2015;13:1302–19.