

## New Topics on HPV in EUROGIN 2016

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### Abstract

**Background:** Human papillomavirus (HPV) is thought to be the most common sexually transmitted viral disease. This infection continues to be an important topic. One of the most important conferences on human papillomavirus infection and related cancers is EUROGIN. The program also includes state of the art science on anogenital and head and neck cancer, inspiration, cooperation, and forums to share expertise and learn from leading experts in the field.

**Methods:** We reported an abstract of important articles and researches presented in this congress.

**Results:** HPV had rolled in oropharyngeal cancer. KI67/P16 is important for deciding on treatment of patients with HPV high-risk positive. Methylation can be used in the management of HPV high-risk patients. 9-valent HPV vaccination can prevent different anogenital cancers.

**Conclusions:** HPV has important role in different cancers. HPV vaccination can prevent a variety of anogenital cancers related to HPV.

**Keywords:** Cancer, High Risk, Human Papillomavirus (HPV), Methylation, Cobas HPV Test

### 1. Background

The EUROGIN is one of the most important conferences on human papillomavirus (HPV) infection and related cancers. The event efforts to translate scientific and evidence-based research into clinical practice while highlighting the following aspects:

- Recent improvement and updated scientific insights in HPV screening, testing and management.
- The impact of HPV related cancers on public health
- Strategies of prevention and treatment of diseases related to HPV.
- information about early detection, new diagnostic and therapeutic methods and prevention strategies including screening and HPV vaccination.

In this paper, we presented a few article abstracts of this congress.

### 2. Results

There are a few articles about HPV. The abstract of important issues is as follows:

Human papillomavirus is one of the most common viral agents infecting skin and inner lining of tissues. This infection is categorized as cutaneous type or mucosal type (1). It is now well established that persistent high risk

HPV infection leads to a deregulation of viral gene expression and altered cell functions including cell proliferation, poor DNA repair, and accumulation of genetic changes (2) and produced squamous intraepithelial lesions. All these changes are linked to anogenital cancers including cervix, vagina, vulva, anal canal, penis, and head and neck cancers, particularly oropharyngeal cancer. In any region of the world, HPV-related cancer burden is driven by cervical cancer incidence. HPV-related cancer burden is different between the two sexes in any region that depends mainly on: 1) the effectiveness of cervical screening programs and to a lesser extent, 2) the fraction of oropharyngeal cancer attributable to HPV.

Vaccines against HPV have been introduced in most developed countries over the last decade. In a number of settings, vaccine-induced reductions in infections with vaccine-included HPV types and cervical cancer or precancerous abnormalities have already been documented in young women (3).

Approaches for triage of HPV positive women may be divided into those which seek additional information from cytological slide preparations and those which utilize molecular testing independent of intact cells. Slide-based options include improvements in computerized interpretation of standard cytological preparations, and immunohistochemistry staining of cytology preparations for

recognition of p16 and Ki67. Investigation of possible improvements in computer imaging is being actively considered. Preliminary data on p16/Ki67 triage from Kaiser Permanente Northern California indicate that p16/Ki67 dual staining is fair sensitive and has better specificity, NPV, and PPV than cytology for CIN2+ in 1669 HPV positive women, which could permit a significant reduction in colposcopy (4).

Molecular approaches include risk stratification by more complicated sorting of HPV types or subtypes, 4-HPV-based cervical cancer screening needs to use the triage marker to decide who should be referred to colposcopy. One candidate triage marker is the detection of p16 or p16/Ki67 stained cells (dual stain) in cytology. P16 and the dual stain have been evaluated for triage of ASCUS and LSIL cytology, for primary screening, and more recently for triage of patient with HPV positive and women with HPV positive/cytology negative.

5- DNA methylation plays a crucial role in activating and silencing genes during normal development. Tumor virus genomes are subject to selective differential methylation with important regulatory consequences.

Interestingly, methylation of L1-L2 in single infections of HPV18, HPV31 or HPV45 in CIN2+ was higher than when presenting as combinations with HPV16, suggesting that HPV16 is usually the driver virus and it is more often targeted by the cellular methylation machinery.

HPV methylation patterns are complex and strongly associated with neoplasia. Similar methylation patterns have been shown in HPV16, HPV18, HPV31, HPV33, HPV45, HPV52, and HPV58 and may be a characteristic of most or all high risk HPVs. There is a typical progression of methylation level with persistent and carcinogenic change. Development and validation of robust routine methylation assays may allow better disease risk profiling of hrHPV+ women.

### 3. Discussion

The EUROGIN is one of the most important conferences on human papillomavirus infection and related cancers. The program also encompasses state-of-the-art science on anogenital and head and neck cancer.

The aim of the EUROGIN 2016 Congress was to develop a full review of current scientific developments in the field of cancer and diseases related to human papillomavirus, raise the public health profile, and increase the need for responsible health services in this area.

Scientific organizations, public and private, representatives of the medical and scientific communities, as well as the Association of Women's Health and Public Health

discussed their ideas. Key Scientific events of the conference were:

1. Workshop of German Austrian
  2. International experts of the HPV and head & neck disease
  3. The satellite course on quality assurance in cervical cancer
  4. Prospects for Immunotherapy in HPV associated Cancer
  5. Other training courses
  6. Vulvar disease course
- Colposcopy training course with case studies. The congress of EUROGIN 2016 provided excellent opportunities for learning from and connecting to professionals from many different disciplines.

Conclusion: HPV has an important role in different cancers. HPV vaccination can prevent a variety of anogenital cancers related to HPV.

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