

# ADGIN India E newsletter

The quarterly newsletter of Asia Oceania research organization on Genital Infections and Neoplasia- India  
**Vol. 3 No. 2 June 2016**

## Office Bearers

- \* **Founder President** Dr. Neerja Bhatla
- \* **Past President** Dr. Partha Basu
- \* **President** Dr. Shalini Rajaram
- \* **Vice President** Dr. Abraham Peedacayil
- \* **Secretary** Dr. Rupinder Sekhon
- \* **Joint Secretary** Dr. Alok Bharti  
Dr. Srabani Mittal
- \* **Clinical Secretary** Dr. Bindiya Gupta
- \* **Treasurer** Dr. Sabhyata Gupta
- \* **Executive Committee**
  - Dr. Indrani Ganguli
  - Dr. Harsh Khullar
  - Dr. Kanika Gupta
  - Dr. Latha Balasubramani
  - Dr. Sarita Kothari
  - Dr. Bhagyalaxmi Naik
- \* **E Newsletter Editor** Dr Nisha Singh
- \* **Web Editor** Dr Dipanwita Banerjee

## From the Editor's desk

Dear friends,

Happy summers

We are here with the second issue of 2016. It includes informative articles by Ridhi Jaiswal and Amrita gaurav. Vijya Srinivas shares her experience with the Gynocular and journal scan is contributed by AIIMS Rishikesh team. Enjoy reading. Contribute to next issue due in September 2016.



Best wishes

Nisha Singh, Lucknow

## Inside this issue:

From the Editor's desk	1
Condyloma acuminata to carcinoma cervix	2
Journal scan	3
HPV self testing kits	4
Community Cervical Cancer screening	5
Forthcoming conferences	6

## Condyloma acuminata to carcinoma cervix- cytology and beyond it

Dr Riddhi Jaiswal, Department of Pathology, KGMU, Lucknow

Histopathology is the globally accepted gold standard for diagnosis and categorisation of various infective, benign and malignant lesions affecting any part of body. Cervical lesions are the one where cytology plays as significant a role as histology. While a clinically diagnosed cervical exophytic condyloma is usually confirmed as the same on histology, sometimes the features suggest cervical intra-epithelial neoplasia grade I (CIN I or LSIL) on cytology.

Cervical neoplasia is an example of multistep carcinogenesis with progression from low to moderate to high grade CIN. Majority of cases are induced by HPV infection. HPV 6 and 11 are the most common cause, though new strains are being discovered showing strong association with cervical intra-epithelial and/or frank neoplasia. The viral genome incorporates into the host cell DNA resulting in loss of inhibitory effect of E2, an early gene product on E6 and E7 oncogenes, which in turn promotes the degradation of human p53 and pRb proteins causing acceleration of the cell cycle and aberrant S-phase induction. Analysis of the cell cycle proteins in cervical cancer has made available several biomarkers that are currently used in routine practice to improve the diagnosis and triaging management of women with abnormal pap smears.

Here, I want to highlight the role of a comparatively recent immunocytochemical marker ProExC. BD ProExC targets the expression of topoisomerase II-alpha and minichromosome maintenance protein-2, two genes that are shown to be overexpressed in cervical cancer. In challenging cases, it has been validated as a useful adjunct on Liquid Based Cytology (LBC) specimens, though limited information is available on its expression in tissue sections.

Badr RE with Bose S et al at the Department of Pathology and Laboratory Medicine, Cedars-Sinai Medical Center, Los Angeles, USA in 2008 carried out an extensive study on 100 patients, to assess ProExC expression patterns in benign, atypical and dysplastic cervical lesions and compared them with p16 and Ki67 expression on histology sections. Literature shows that scientists like SJ Choi, H Sakamoto and EK Risse in different parts of the world have also worked on cell blocks made from the residual LBC preservative containing cells after ThinPrep or SurePath smears have been prepared, using them subsequently for Immunohistochemistry with different antibodies as on surgical specimens. Almost all relevant work shows that ProExC is a reliable marker for high grade CIN, its expression being strongly distinct nuclear, in comparison to p16 where it is variably nuclear and/or cytoplasmic. The combination of ProExC and p16 had the highest sensitivity whereas the combination of p16 and Ki67 had the highest specificity. The Odds ratio was also higher for the combination of markers than either alone. However, the discrepancies still remain in the CIN I category.

A similar study is being carried out at our centre and we are hopeful to minimise the discrepancies, to further support patients with benign lesions or low grade dysplasia.

## Journal Scan

### Study of accuracy of colposcopy in VIA and HPV detection-based cervical cancer screening program

Ghosh I, Mittal S, Banerjee D, Singh P, Dasgupta S, Chatterjee S et al .

*Australian and New Zealand Journal of Obstetrics and Gynaecology* 2014; 54: 570–575

**Objective:** This population-based study was conducted to evaluate the performance of colposcopy to assess women with positive visual inspection with acetic acid (VIA) and/or human papillomavirus (HPV) tests.

**Materials and Methods:** A total of 30,773 women were screened by VIA and oncogenic HPV test. Hybrid capture 2 was used for oncogenic HPV detection. All VIA- and/or HPV-positive women and 8.7% test-negative women had the colposcopy. International Federation of Cervical Pathology & Colposcopy (IFCPC) 2011 nomenclature was used for colposcopic classification of abnormalities. All women with grade 1 or worse lesions had punch biopsies. Biopsies were also obtained from HPV-positive women with normal colposcopy.

**Results:** Colposcopy and satisfactory biopsy reports were available for total 2466 women. The overall strength of agreement between colposcopy and histologic classification of cervical neoplasia was poor ( $\kappa = 0.17$ ). Agreement was better when colposcopy was performed on HPV-positive women compared to VIA-positive women. Sensitivity of colposcopy to detect high-grade squamous intraepithelial lesions (HSIL) at referral threshold of grade 1 abnormality was 84.8% after correction of verification bias. Colposcopy was most inaccurate in identifying non-neoplastic conditions often encountered in VIA- and/or HPV-positive women. In 68.8% women with normal histology, colposcopic impression was grade 1 and above. Overestimation of disease severity on colposcopy was more common in VIA-positive women. Colposcopy also underestimated severity of disease in 52.6% of women with HSIL diagnosis on biopsy.

**Conclusions:** Colposcopy performed well in the overall detection of cervical neoplasias, though its capability for accurate categorization of degree of abnormality was poor.

## HPV SELF TESTING KITS- AS CERVICAL CANCER SCREENING OPTION

Dr Amrita Gaurav Dr. Anupama Bahadur Prof. Jaya Chaturvedi , AIIMS, Rishikesh, Uttarakhand.

Cervical cancer is the second most common cancer in women worldwide, and the most common cause of cancer among women in India and accounts for approximately 500,000 new cases and 250,000 deaths each year across the world .(1) The association of pre existing HPV infection and the development of cervical cancer is proven worldwide.(2, 3)

Self-sampling by cervicovaginal lavage using HPV self testing kits could be a feasible method to detect high-risk human papillomavirus (hr-HPV) infections to identify women with a risk of cervical precancerous conditions and cervical cancer.

Around 36 studies were conducted around the world to determine the efficacy of HPV self testing kits. Yvonne Delere et. al at the Robert Koch Institute, Berlin studied the use self-sampling for the first time in a cross-sectional approach to determine HPV prevalence and genotype distribution. (5) They evaluated participants' acceptance and laboratory results from self-obtained samples versus endocervical brush samples obtained by gynecologists. They concluded that self-sampling by cervicovaginal lavage is a reliable method to determine hr-HPV prevalence and is well accepted by young adult females.

Bhatla et al in 2009 at the AIIMS, New Delhi India, determined the human papillomavirus (HPV) types by polymerase chain reaction (PCR)-reverse line blot assay and examined the concordance between HPV by Hybrid Capture 2 (HC2) and PCR on self-collected vaginal and physician-collected cervical samples and cytology. They concluded that self-HPV sampling compares favourably with physician-sampling and cytology and hence a rapid, affordable, HPV self-test kit can be used as the primary mode of cervical cancer screening in low-resource situations. (6)

### Technique of HPV self sampling

The self-sampling device known as the the Delphi Screener, is a sterile, syringe-like device containing five milliliters of buffered saline.

It is operated by plunging the handle, releasing the saline into the vagina, holding it down for five seconds, then releasing the handle, so that the device retrieves the fluid.

Next, the lavage specimens is plunged into prelabeled coded tubes, and sent to the laboratory.

Self-sampling cervical specimens analyzed using Polymerase Chain Reaction (PCR)-based test, reduces false-positive results. The PCR methodology has been approved by the US FDA in 2011 and clearly identifies all 14 targeted Hr-HPV types together.

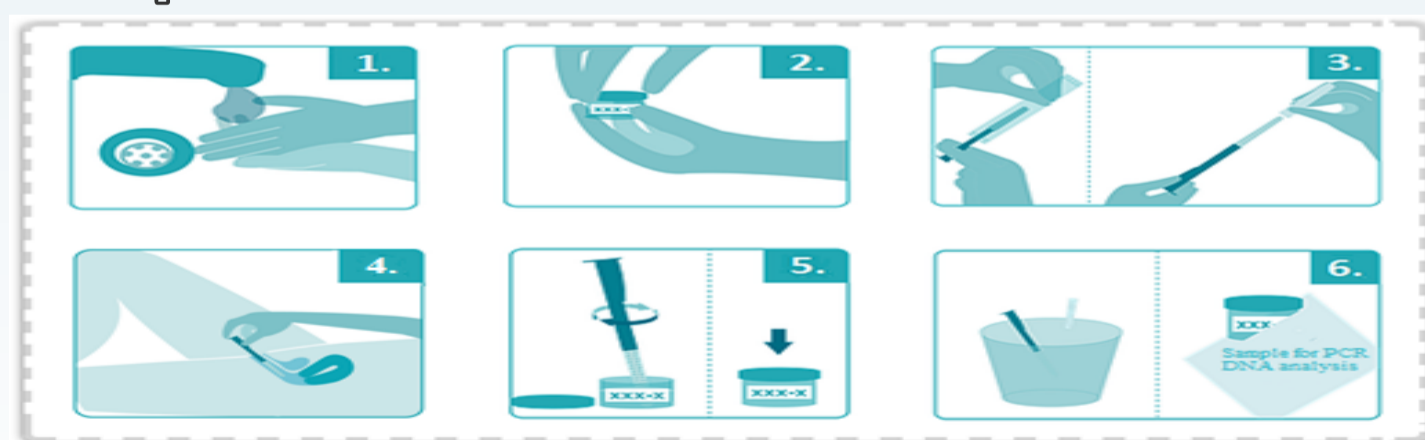


Figure 1- Technique of HPV self sampling.

In conclusion, self-sampling by cervicovaginal lavage using HPV self sampling kits has a wide range of applications. The easy-to-handle device is highly simple to use and is user friendly. It has high sensitivity in detecting hr-HPV and can easily handle against environmental influences making it easy for transportation. All these make HPV self-sampling device a reliable and valuable method to conduct population-based studies on HPV prevalence especially in low resource populations.

## Community Cervical Cancer screening with Gynocular, a portable Colposcopy in Mysore Dr Vijayasrinivas, Public Health Research Institute of India, Mysore

Public Health research Institute of India, Mysore, Karnataka have been involved with Cervical cancer screening and prevention services along with other reproductive health issues related to women's health for more than 8 years in Mysore.

At the AOGIN-INDIA 2015 Conference 2015, I came to know about GYNIUS team and also about Gynocular. I expressed my desire to have it for our work. After one month, we attended the orientation training program on Gynocular at Vellore. Though the half day orientation program was not adequate to update my knowledge about gynocular, I gained knowledge by continuous communication with the team especially Mr Vikas, Dr Elisabeth shimmer, Dr Abraham and also the digital learning course by IARC. As I was not a Colposcopist I referred many online video presentations on Colposcopy. We were required to complete 200 gynocular cases within one year period to own the gynocular for PHRII, and update it to Dr Abraham. Dr Elisabeth helped me to improve the referral system of gynocular images and gave her opinion.

We started Gynocular screening along with VIA camps through our mobile community clinic. In the initial period we had few challenges that the women in the community were not willing to give consent to undergo gynocular test as it takes little more time than VIA and they were afraid of the equipment. After continuous education and counseling about the importance of the images and documentation through smart phone, women started coming for the gynocular exam. Initially we had the problem of inaccurate focusing of the cervix and unsatisfactory images. After some time, we were able to take nice pictures improve the scoring system of gynocular.

Till date, we have performed 190 gynocular exam through more than 10 community screening camps and I found it is very good in assessing the vessel pattern through green filter, VIA, VILI, surface and margin of the lesion and help us to determine the provisional diagnosis and follow up of cases. I accept that use of Gynocular TM along with the attachment of smartphone acts as a portable colposcope. This software enables the healthcare professionals to document the data as medical records in outreach as well as static clinics. This might be a best way to follow up and treat the VIA positive cases which also can reduce the burden of over-treatment by VIA.



**More pictures on page 6**



### Address

Room No 2058  
Rajeev Gandhi Cancer Institute &  
Research Centre  
Sec 5 Rohini, New Delhi 110085  
Phone-01147022027, 01147022058

[www.aoginindia.in](http://www.aoginindia.in)

### Vision Statement

**AOGIN India's vision** is to reduce the burden of diseases caused by reproductive tract infections, especially Human Papillomavirus (HPV), in India. Furthermore, AOGIN India's **mission** is to work with governments, non-governmental organizations, learned societies, health care workers and the lay public, to communicate, cooperate and share information in India and neighboring countries pertaining to prevention, early detection and management of cervical cancer and other genital cancers.

### Forthcoming Conferences

**FOGSI-FIGO Masterclass in Oncology,**  
**7th Annual Conference of AOGIN India 2016,**  
**AOGIN 2016**

**Pune,**  
**Patna,**  
**Singapore**

**24th June 2016**  
**14-16th October 2016**  
**12-14th August 2016**

