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e-Newsletter

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From the Editor's Pen

Dear All

"Communities and countries and ultimately the world are only as strong as the health of their women." –Michelle Obama

As we all know, in 2018, the director-general of the World Health Organization pledged to eliminate cervical cancer as a public health problem within the next century. Clear targets that have been set by 2030 to achieve the "elimination goal" include the following: 90% of girls to be immunized by 15 years of age; 70% of women between 35 and 45 years old to be screened at least once in a lifetime with a proficiency test; and 90% of women with high-grade cervical lesions or cervical cancer being treated. It has been emphasized that 4 key recommendations should be followed in low and low middle-income countries where the majority of the target population for vaccination lives. These recommendations included increased global financial investment; improved vaccine supply and accelerated use of a single-dose schedule; education and social marketing; and adoption of universal school-based delivery.

When the three-pronged approach towards cervical cancer prevention was gaining momentum in LMIC, the resurgence of the covid pandemic pushed all these efforts to the backseat. The diversion of all health resources and money towards COVID 19 has been a big blow for the cervical cancer prevention programme. Moreover, lack of financial aids, the vaccine shortage at places, movement restriction and fear of attending the hospitals or organizing screening camps had also sacrificed the preventive aspect of all diseases. Even the higher income countries are also facing a similar deprioritisation of the preventive strategies. As per one of the reports, UK has cut the health budget substantially which had affected most of the health programmes.

Therefore, it is a time for all of us to rethink and reorganize ourselves so that we should not be lagging on the preventive health programmes.

In this issue we have included the interesting article by Dr Saritha Shamsunder on 'HPV testing'. Besides this there is 'News around the world' by Dr Roopa Hariprasad and journal scan by Dr Deepti Goswami.

I, once again, request all the ISCCP members to contribute in the Newsletter in the form of review articles/original articles/viewpoint/case reports/images.

Stay Healthy

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HPV Testing for Cervical Screening

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Carcinoma cervix is the second most common gynecological malignancy among Indian women aged 25-44 years with an incidence of 3.5% after carcinoma breast (28.6%). Due to the lack of an organized cervical screening program, the disease burden is high in India. Discrepancy in resources and health care facilities across the country, has been a major factor limiting the establishment of an effective cervical screening program.

The World Health Organisation (WHO) has given a call for Elimination of cervical cancer by 2030 by vaccinating 90% of girls, screening at least 70% of women at 35 & 45 year with a high precision test and treating 90% of precancerous lesions detected.

Currently opportunistic screening is practiced across the country and based on the resources available, screening technique can be either a primary Human Papilloma Virus (HPV DNA) test, Co-testing (HPV DNA + Cytology), Cytology alone or Visual Inspection with Acetic acid (VIA). HPV testing for cervical screening has proven to be the most sensitive test with a high negative predictive value and recommended by the WHO for primary screening. The protective value of a negative HPV test lasts for 5-7 years and may be extended to 10 years.

Primary HPV Testing

Human Papilloma Virus (HPV) has been recognized as the causative factor for Cervical cancer. It is estimated at least 80% of sexually active women will acquire HPV infection and a large majority of them will clear the infection spontaneously within a year. However, those with persistent infection with high-risk HPV (hrHPV) types are at risk of developing cervical cancer. Of the 30-40 subtypes of HPV that infect the human ano-genital tract, 18 of them have been identified as hrHPV (16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 70,73, 82). The relationship between persistent hrHPV and cervical cancer lead to the development of HPV testing and vaccination.

HPV tests were found to have higher sensitivity than cytology (96.1% vs. 53.0%), hence better suited as a screening tests. The high sensitivity and negative predictive value meant higher sensitivity to detect pre-neoplastic lesions, better reassurance of negative tests with safe prolongation of screening intervals. Initially, HPV testing was incorporated as a method for triage of atypical squamous cells of undetermined significance (ASC-US) cytology results by the American Society for Colposcopy and Cervical Pathology (ASCCP). Later the concept of co-testing with cytology emerged, and finally, it has found acceptance as a primary screening test for cervical cancer.

Principle of HPV Tests

Understanding the technical aspects of HPV assay is an integral part of the successful implementation of HPV-based screening because it is essential to choose a clinically validated test. Currently, more than 200 commercial HPV tests are available in the global market, but only some are clinically validated.

The various tests available and the principle behind the tests are outlined. HPV DNA tests are multiplex assays that detect DNA of targeted high-risk HPV types, using a cocktail of probes, either by direct genomic detection or by amplification of a viral DNA fragment using polymerase chain reaction (PCR). HPV genotyping identifies specific viral types (usually HPV 16 and 18), thereby identifying those at greatest risk of persistence and progression. HPV mRNA tests detect the expression of E6 and E7 onco-proteins, a marker of viral integration.

DNA based HPV Assays

Direct Genome Detection Tests

- **Hybrid Capture 2: (hc2) - Qiagen**

  A clinically validated test, detects high-risk HPV types (HR-HPV) by means of a probe cocktail for 13 HR-HPV. It is a technique in which DNA hybrids are identified with RNA probes. Originally developed by the Digene Corporation (Maryland, U.S.A), is currently produced by Qiagen (Maryland, U.S.A). Since 2000, this kit has the approval of the United States Food and Drug Administration (FDA) for screening in combination with cytology. Sample collection is by a brush that is introduced into the endocervical canal, and then placed in a tube that contains a medium for transport to the laboratory. In the laboratory, cervical cells are subjected to an alkaline denaturation solution that exposes the genetic material. Subsequently, through the use of an RNA probe cocktail (with 13 types of HR-HPV: 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68) a viral RNA: DNA hybrid is formed in the presence of any of these viruses. Hybridization is identified through specific antibodies and a chemiluminescent

solution that emits light in the presence of hybrids. A luminometer is required to detect hybrids.

The test is reported as positive when light is emitted and negative when it is not, according to the final reading of the chemiluminescence signal, 1 relative light unit is taken as positive. A positive test indicates the presence of one or more of the 13 HR HPV types.

- **careHPV**

  The careHPV test (Qiagen) is a clinically validated rapid test, that detects 14 high-risk HPV types in an automated, faster process - 2.5 hours to process 90 samples.

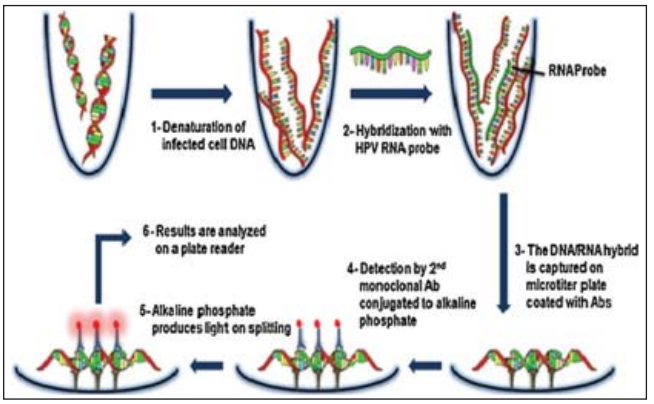


Fig 1: Hybrid Capture 2

DNA Amplification Tests

- **Cervista HPV HR and Cervista HPV 16/18: (Hologic)**

  The Cervista HPV HR test is an analytically and clinically validated in vitro diagnostic test for the qualitative detection of 14 HR-HPV types in cervical specimens. Cervista HPV 16/18 detects HPV 16 and 18. The test was approved by the FDA in 2009 to be used together with cervical cytology in women aged ≥30 years. Cervista uses Invader chemistry, a signal amplification method for detection of specific nucleic acid sequences. This method uses two types of isothermal reactions that occur simultaneously: a primary reaction that occurs on the targeted DNA sequence and a secondary reaction that produces a fluorescent signal. The instrument has an internal control that reduces false negatives produced by a low number of cells. However; its limitations are cross-reactivity to two HPV types of unknown risk, HPV -67 and HPV- 70

- **Polymerase chain reaction (PCR)**

  The PCR-based techniques are highly sensitive, specific, and widely used. In a conventional PCR, the thermostable DNA polymerase recognizes and extends a pair of oligonucleotide primers that flank the region of interest. In the final process, the PCR can generate one billion copies from a single double-stranded DNA molecule after 30 cycles of amplification. The HPV-PCR protocols use consensus primers such as PGMY09/PGMY11 and GP5+/GP6+, which allow amplification of a large number of HPV genotypes in a single reaction. The primers target conserved regions of the HPV genome, such as the L1 capsid gene. After amplification, the HPV genotypes can be determined separately, using techniques such as restriction-fragment length polymorphism (RFLP), linear probe assays, direct sequencing, or genotype-specific primers. Some researchers have used a type-specific PCR, with primers that amplify the long control region L1 and E6/E7. These PCR techniques also have some drawbacks, mainly in competition for reagents, leading to false negative results for multiple type infections that are contained in samples at lower copy numbers. Amplification of samples containing DNA from more than one HPV genotype can lead to a much stronger amplification of one of the sequences presents, which would complicate the detection of all genotypes in a sample with multiple infections.

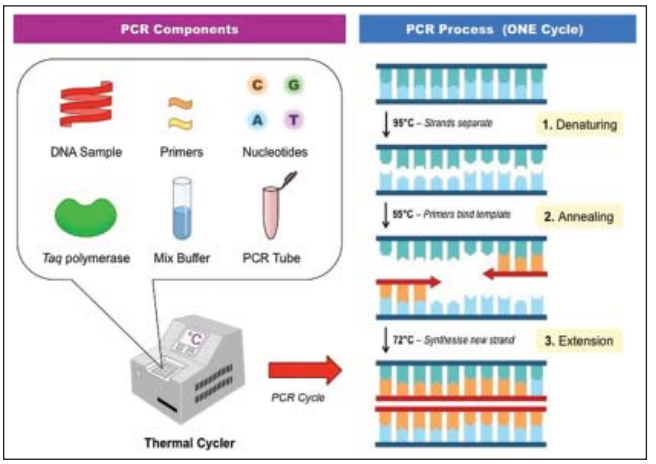


Fig 2: Polymerase chain reaction (PCR)

- **Cobas HPV Test: (Roche)**

  The Cobas HPV test detects 12 high-risk HPV types (31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68), and specifically reports on HPV 16 and 18. This is a clinically validated in vitro qualitative test. The system uses the β-globin gene as an internal control for specimen integrity, extraction, and amplification. The system is totally automated, facilitating laboratory workflow. It consists of a Cobas Z thermocycler and the necessary software for real-time PCR, using primers for the HPV L1 region. The procedure includes processing of DNA extraction samples and real-time PCR analysis. The technique does not cross-react with non-carcinogenic genotypes. Furthermore, the operator has minimal contact with the sample, preventing contamination. This system can carry out 96 tests in approximately five hours. The advantages of this system are reduction in processing and work time; reduction in

repetitive motions; reduction in the risk of errors due to fatigue; reduction in the production of biohazard waste; and reduction in costs by eliminating the need for additional reagents.

- **Abbott Real Time High Risk (HR) HPV assay**

  The Abbott Real-Time High Risk (HR) HPV assay is a completely automated, clinically validated test for screening above 30 yrs. It detects 14 HR-HPV types (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68). This test reports on HPV 16 and 18 separately from the other high-risk HPV types. The system consists of an m2000sp instrument that prepares the nucleic acid and an m2000rt analyzer that carries out real-time PCR using a mixture of multiple primers and probes for amplification and detection of HR-HPV DNA and for the β-globin gene, as an internal quality control of cervical cells collected in liquid-based cytology. The response time of the process is from six to eight hours for 96 samples and depends on the DNA extraction method used. The advantages of this technique are the automation of the multiple steps—reducing personnel—time used, and risk of contamination. Subjective interpretation is one of the test's limitations.

- **BD HPV Assay**

  The BD HPV test is a clinically validated; CE approved real-time PCR that amplifies the region that codes HR-HPV E6/E7 oncoproteins. These regions are present throughout the stages of the disease's progression and the assay has been designed to detect specific regions according to virus type, instead of amplification of gene regions detected with L1 primer sets. The test provides individual information for six HPV types (16, 18, 31, 45, 51, and 52), as well as detection of all 14 HR-HPV. The BD HPV test performs as well as other tests approved by the FDA and those with European Commission CE (Conformité Européenne) marking—including HC2—and using cervical specimens collected in PreservCyt medium (Hologic, Marlborough, MA, U.S.A.). The samples are processed in the BD Viper system, which has an internal quality control. The system is totally automated and can process 1-30 samples per run and 120 results per day, including genotyping.

- **Xpert HPV**

  The Xpert HPV test is a real-time PCR that simultaneously detects DNA encoding for E6/E7 oncoproteins of 14 HPV types (HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68). The samples are processed as individual cartridges in the GeneXpert platform from Cepheid (Sunnyvale, CA, U.S.A.). This is a molecular diagnostic platform with a capacity to process1- 80 tests, in one hour. Test results are reported for overall high-risk HPV status, as well as the presence of high-risk HPV genotypes.

E6/E7 mRNA Detection Techniques

The carcinogenic process is regulated by HPV E6 and E7 oncoproteins and, as a result, excessive expression of these genes is a risk marker for cervical cancer. It has been postulated that detection of E6/E7 oncogene expression could be more specific and be a better cancer risk predictor than the HPV-DNA test. Two methods use RNA detection: the Aptima HPV Assay test of E6/E7 messenger RNA (Gen-Probe), which detects 13 HR-HPV types and HPV-66; and the PreTect HPV-Proofer (NorChip) test, which detects RNA of HPV types 16, 18, 31, 33, and 45 utilise this principle.

- **APTIMA HPV Assay**

  This qualitative test is based on direct detection of the expression of E6 and E7 mRNA oncoproteins, from the 14 types of HR-HPV (16, 18, 31, 33, 35, 39, 45, 51, 52,

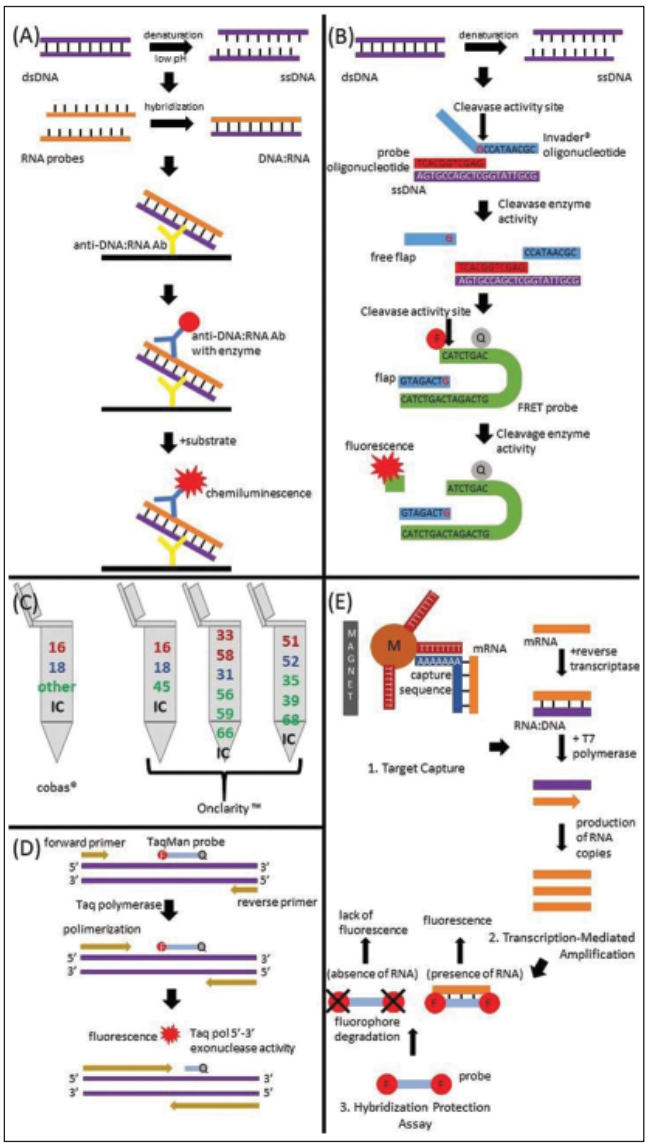


Fig 3: APTIMA HPV assay

56, 58, 59, 66, and 68) through real-time amplification (48, 49). The APTIMA HPV Assay does not discriminate among the 14 types. The test can analyze cervical samples collected in tubes for ThinPrep cytology with PreservCyt solution. The assay includes an internal control to oversee nucleic acid capture, amplification, detection, as well as user or APTIMA HPV E6/E7 instrument errors. This system can carry out up to 250 tests in approximately five hours. This technique was approved by the FDA in 2011 for screening women starting at age 30 years, in combination with Pap smears. It has several limitations, such as, that the test has not been evaluated in HPV-vaccinated individuals; that detection of high-risk HPV mRNA depends on the number of copies in the specimen and according to the literature, false positives can occur with low-risk HPV.

- **PreTect HPV-Proofer assay**

  The PreTect HPV-Proofer assay (Proofer; Norchip AS, Norway) is a type-specific E6/E7 mRNA-based test for oncogenic types 16, 18, 31, 33, and 45, with both HPV detection and genotyping performed in the same reaction. It has a high specificity to triage ASCUS cytology

- **AVantage HPV E6 Test (Arbor Vita Corporation)**

  The test uses high affinity monoclonal antibodies for the specific capture and detection of high-risk HPV E6 oncoprotein in a lateral flow-based format using cervical swabs. It is a Point-of-care test detecting E6 oncoprotein of HPV16/18/45/31/33/52/58, useful for low resource settings. It is simple, inexpensive, no complex equipment required and can process 45 samples within 2 to 21/2 hours.

Summary of HPV tests

Test	Technique	Name
DNA	Direct Genome detection	Hybrid Capture 2 *care*HPV test
	Amplification	GP5+/GP6+ bio PCR-EIA Cervista HPV HR
	Amplification and genotyping of HPV-16 and HPV-18	Cervista HPV 16/18 Cobas HPV test Xpert HPV Abbott Real time high risk HPV assay
RNA	Amplification of E6/E7 proteins	Aptima HPV assay PreTect HPV-Proofer HPV
	Monoclonal antibody	AVantage HPV E6 Test

Test	Sensitivity (%)	Specificity (%)
Hybrid capture 2	97.5	84.3
CareHPV	90.0	84.2
Cervista HPV	100	
Cobas HPV Test	97.3	84.5
Abbott Realtime High risk (HR) Assay	95.0	87.2
Aptima HPV Assay	97.6	90.2
Xpert HPV	100	81.5

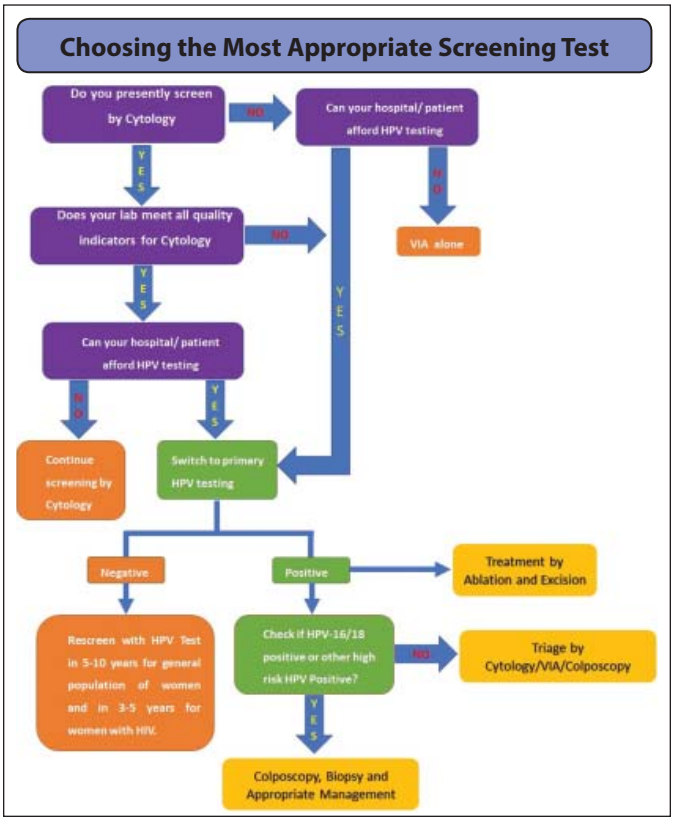
Fig 4: HPV tests & Sensitivity (Source: Cuzick J et al. 2013.)

Primary HPV Screening & Clinical Implications

HPV testing is highly sensitive but cannot discriminate between transient and persistent infections. A negative test result indicates low probability for developing CIN 3 + disease in the next 5 -10 years with accuracy, but a positive test result only indicates the presence of an essential risk factor. Therefore, if all HPV positive cases are referred for colposcopy, the burden of colposcopy referrals and associated procedures will be very high, which is of particular concern in younger women. The major advantage of HPV as primary screening tool is that, a negative HPV test on the other hand allows prolongation of screening intervals, reduced interventions and in the long run can become cost- effective.

Primary HPV screening is currently recommended by many organizations including the World Health Organization (WHO). Several countries including Australia, Norway, Italy, The Netherlands, Sweden, Finland, and Germany have already implemented primary HPV screening programs and many others are in the process of transition.

In India, the Federation of Obstetrics & Gynaecologic Societies of India (FOGSI), in its resource-based guidance,



endorses primary HPV screening as a validated HPV test. The guideline, takes into consideration the varied resources available across the country and has created an algorithm for cervical screening, an adaptation of WHO screening guideline.

This resource -based strategy recommends in good resource settings, any of the screening tools to be employed by triage – ideally Primary HPV testing, Cytology alone or VIA. In low resource setting, VIA or if available low-cost HPV testing, including self-sampling.

Conclusion

Primary HPV cervical cancer screening is gradually replacing other screening modalities both in developed and developing countries. The high sensitivity of HPV test makes it ideal for population-based cervical cancer screening. WHO recommends HPV screening every 10 years starting from age 30 years. The negative results provide better reassurance against development of CIN and cancer and, therefore, need less frequent screening thereby reducing the costs of screening. For successful implementation of population-based screening, only a clinically validated test performed in accredited laboratories should be used and simplified. Point of care, low-cost HPV testing, if widely available will help in significantly achieving the recommended 70% screening coverage by 2030. Combined with HPV vaccination, it holds promise for the elimination of cervical cancer.

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Rezniczek GA, Hecken JM, Rehman S, Dogan A, Tempfer CB, Hilal Z.

Syringe or Mask? Loop Electrosurgical Excision Procedure under Local or General Anesthesia: A randomized trial

Am J Obstet Gynecol. 2020 Dec;223(6):888.e1-888.e9.

The objective of this study from Germany was to compare loop electrosurgical excision procedure under local anesthesia vs general anesthesia regarding (a) patient satisfaction and (b) procedure-related outcomes such as rates of involved margins, complications, pain, and blood loss.

Between July 2018 and February 2020, a total of 208 women were included in the study- 108 were randomized to the local anesthesia arm and 100 to the general anesthesia arm. Local anesthesia involved 4 intracervical injections of bupivacaine hydrochloride 0.5% and general anesthesia was administered with fentanyl, propofol, and a laryngeal mask with sevoflurane maintenance.

The primary endpoint was patient satisfaction assessed on the day of surgery and 14 days thereafter using a Likert scale (score 0-100) and a questionnaire. Secondary endpoints included rates of involved margins, procedure-related complications, pain, blood loss, and surgeon preference.

Results

In the intention-to-treat analysis, patient satisfaction did not differ between the study groups directly after surgery (Likert scale 100 [90-100] vs 100 [90-100]; P= 0.077) and 14 days thereafter (Likert scale 100 [80-100] vs 100 [90-100]; P= 0.079).

In the per-protocol analysis, women in the local anesthesia arm had significantly smaller cone volumes (1.11 cm3 [0.70-1.83] vs 1.58 cm3 [1.08-2.69], respectively; P< 0.001), less intraoperative blood loss (Δhemoglobin, 0.2 g/dL [-0.1 to 0.4] vs 0.5 g/dL [0.2-0.9]; P< 0.001), and higher satisfaction after 14 days (100 [90-100] vs 100 [80-100]; P= 0.026), whereas surgeon preference favored general anesthesia (90 [79-100] vs 100 [90-100], respectively; P= 0.001).

All other secondary outcomes did not differ between groups (resection margin status R1, 6.6% vs 2.1% [P= 0.26]; cone fragmentation, 12.1% vs 6.3% [P= 0.27]; procedure duration, 151.5 seconds [120-219.5] vs 180 seconds [117-241.5] [P= 0.34]; time to complete hemostasis, 60 seconds [34-97] vs 70 seconds [48.25-122.25] [P= 0.08]; complication rate, 3.3% vs 1.1% [P= 0.59]).

In a multivariate analysis, parity (P= 0.03), type of transformation zone (P= 0.03), and cone volume (P= 0.02) and not study group assignment, age, body mass index, and degree of dysplasia independently influenced the primary endpoint.

The authors concluded that Loop electrosurgical excision procedure under local anesthesia is equally well tolerated and offers patient-reported and procedure-related benefits over general anesthesia

Cohen PA, Leung Y, Anderson L, van der Griend R, Chivers P, Bilic S, Bittinger S, Brand A, Bulsara MK, Codde J, Eva L, Farrell L, Harker D, Herbst U, Jeffares S, Loh D, McNally O, Mohan GR, Nicholson T, Powell A, Salfinger SG, Simcock B, Stewart C, Silvers J, Stockler MR, Sykes P, Stoyles P, Tan A, Tan AL, Wrede CDH.

Excisional Treatment Comparison for in Situ Endocervical Adenocarcinoma (EXCISE): A phase 2 pilot randomized controlled trial to compare histopathological margin status, specimen size and fragmentation after loop electrosurgical excision procedure and cold knife cone biopsy

Gynecol Oncol. 2020 Dec;159(3):623-629.

Adenocarcinoma in situ (AIS) of the cervix is managed with an excision biopsy to rule out invasion. This can be done by loop electrosurgical excision procedure (LEEP) or 'cold knife cone biopsy' (CKC). This Australian study aimed to compare margins status, specimen size and fragmentation after these two procedures were performed for AIS.

Results

- 40 patients were randomly assigned 2:1 to LEEP or CKC Between August 2, 2017 and September 6, 2019. Margin status was evaluable in 36 cases.
- The proportion of patients with involved margins did not differ between groups.
- 25 of 26 LEEP and all 14 CKC biopsies were excised as single specimens (p = 1·00).
- There were no differences in specimen dimensions.
- Patients in the CKC group had more post-operative complications (64.3% compared to 15.4% for LEEP

p = 0·00). There were no differences in grade three complications (p = 0·65).

LEEP was not associated with a greater likelihood of positive margins, specimen fragmentation or smaller excision compared to CKC when performed according to a standardized protocol. However, the study was not powered to establish non-inferiority of LEEP.

Kreimer AR, Sampson JN, Porras C, Schiller JT, Kemp T, Herrero R, Wagner S, Boland J, Schussler J, Lowy DR, Chanock S, Roberson D, Sierra MS, Tsang SH, Schiffman M, Rodriguez AC, Cortes B, Gail MH, Hildesheim A, Gonzalez P, Pinto LA; Costa Rica HPV Vaccine Trial (CVT) Group.

Evaluation of Durability of a Single Dose of the Bivalent HPV Vaccine: The CVT Trial

J Natl Cancer Inst. 2020 Oct 1;112(10):1038-1046.

This study by the Costa Rica Vaccine Trial Group investigated the durability of vaccine efficacy (VE) against human papillomavirus (HPV)16 or 18 infections and antibody response among nonrandomly assigned women who received a single dose of the bivalent HPV vaccine compared with women who received multiple doses and unvaccinated women.

HPV infections were compared between HPV16 or 18-vaccinated women aged 18 to 25 years who received one (N = 112), two (N = 62), or three (N = 1365) doses, and age- and geography-matched unvaccinated women (N = 1783) in the long-term follow-up.

Cervical HPV infections were measured at two study visits, approximately 9 and 11 years after initial HPV vaccination, using National Cancer Institute next-generation sequencing TypeSeq1 assay. VE and 95% confidence intervals (CIs) were estimated. HPV16 or 18 antibody levels were measured in all one- and two-dose women, and a subset of three-dose women, using a virus-like particle-based enzyme-linked immunosorbent assay (n = 448).

Results

Median follow-up for the HPV-vaccinated group was 11.3 years (interquartile range = 10.9-11.7 years) and did not vary by dose group.

VE against prevalent HPV16 or 18 infection was 80.2% (95% CI = 70.7% to 87.0%) among three-dose, 83.8% (95% CI = 19.5% to 99.2%) among two-dose, and 82.1% (95% CI = 40.2% to 97.0%) among single-dose women.

HPV16 or 18 antibody levels did not qualitatively decline between years four and 11 regardless of the number of doses given, although one-dose titers continue to be statistically significantly lower compared with two- and three-dose titers.

The authors concluded that more than a decade after HPV vaccination, single-dose VE against HPV16 or 18 infection remained high and HPV16 or 18 antibodies remained stable. A single dose of bivalent HPV vaccine may induce sufficiently durable protection that obviates the need for more doses.

Cervical Cancer News From Around The World

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Predictive Model Projects Cervical Cancer Elimination

A Predictive Model Indicates the Elimination of Cervical Cancer in Low-poverty Areas 14 Years before High-poverty Areas

Health IT Analytics: September 13, 2021

A predictive model estimated that cervical cancer could be virtually eliminated in the United States by 2030 in communities with low poverty rates, but not until 2044 in communities with high poverty rates.

There are approximately 14,000 cases of cervical cancer diagnoses each year in the United States, leading to about 4,000 annual deaths. Over 90 percent of cervical cancers are caused by certain types of human papillomavirus (HPV) infections.

HPV vaccines became available in 2006 and currently protect against nine HPV types, including seven of the 14 known to increase cancer risk. The vaccine regimen is recommended for all adolescents and consist of two doses for children aged nine to 15 or three doses for individuals ages 15 to 26.

Read more at: https://healthitanalytics.com/news/predictive-model-projects-cervical-cancer-elimination

Pune's First Mobile Cervical Cancer Screening Centre Inaugurated

Indian Express: August 17, 2021

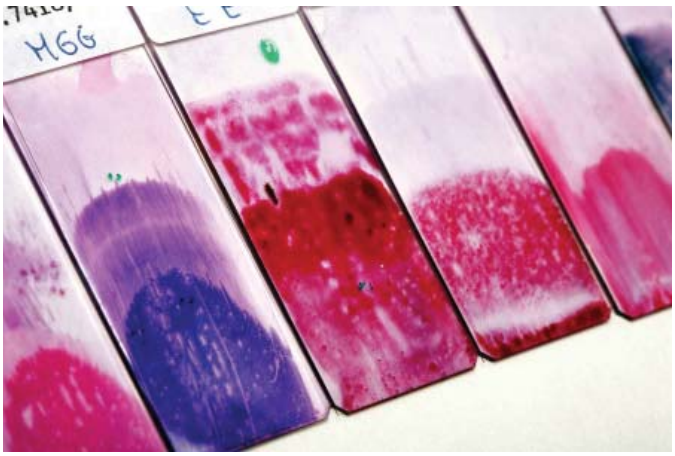
The Aam Aadmi Party inaugurated Pune's first ever mobile cervical cancer screening centre on Monday. State convenor Vijay Kumbhar told The India Express that the success of this experiment will help the party scale up and spread it to other parts of the state.

Cervical cancer accounts for a significant number of deaths in India. Often, later diagnosis delays treatment and at times is simply too late for the patient.

Read more at:https://indianexpress.com/article/cities/pune/aap-inaugurates-first-mobile-cervical-cancer-screening-in-pune-7455959/

Ireland's 'CervicalCheck' Cancer Screening Program Remains Plagued by Controversy Despite Reform Efforts

Dark daily: August 25, 2021



Two US clinical laboratories providing testing for the problem-laden program have been targets of lawsuits from women who allege their smear test results were misread

In Ireland, the nation's health service continues to deal with the consequences from problems with its "CervicalCheck" service that is designed to provide timely screening for the early detection of cervical cancer. It became a national scandal when the news media learned that a number of women had received diagnoses of terminal cervical cancer due to failings in the screening program.

Throughout 2021, news reports have called attention to the efforts of the publicly-funded Health Service

Executive (HSE) to regain the trust of women in that country. Earlier this year, TheJournal.ie wrote "the CervicalCheck controversy has been a complex and emotional series of tragedies and mistakes that damaged what is an important, free public health measure for women that could, along with the HPV vaccine, eradicate cervical cancer."

This ongoing controversy provides cytopathologists and medical laboratory leaders in the US with yet another example of how easily trust in clinical laboratories can be lost when patients lose confidence in the accuracy of test results.

Read more: https://www.darkdaily.com/2021/08/25/irelands-cervicalcheck-cancer-screening-program-remains-plagued-by-controversy-despite-reform-efforts/