FOGSI
ONCOLOGY COMMITTEE

VOLUME : I ISSUE : 3 DATE : 31st JANUARY-2021

NEWS LETTER

Dr. Alpesh Gandhi
President, FOGSI

Dr. Jaydip Tank
Secretary General, FOGSI

Dr. Anita Singh
V.P. In-Charge

Dr. B. L. Nayak
Chairperson,
Oncology Committee

Message

Dr. Anita Singh
Vice President, FOGSI
2020

It's a pleasant task to write a message for the 3rd. issue newsletter of Oncology committee FOGSI. This newsletter has been dedicated to cervical cancer elimination and will be of immense help to our readers.

As the WHO launched the elimination of cervical cancer initiative world over on 17.11.2020 FOGSI also joined the movement. We organized essay competition, poster competition and slogan competition for the same with overwhelming response. More than 100 essays ,posters and slogans each in various languages were received. The prize winning entries have been included in this issue.

Wishing you all a happy reading and hope you all get geared up for the goal to eliminate cervical cancer.

Jai Hind! Long live FOGSI !

Dr. Anita Singh
Vice President, FOGSI, 2020

Acknowledgement

Dr. B. L. Nayak

Esteemed readers ,

It is a pleasure to bring before you the 3rd. Newsletter from Oncology committee FOGSI. Cervical cancer elimination is now the goal. I'm happy to state that members of my committee have been doing great work towards this cause. With the stage set for elimination our president Dr. Alpesh Gandhi has worked out a huge programme for this to start with the north east region. And there has been overwhelming response from fogsians from northeastern states under the able leadership of Dr. Gokul Das.

Friends we are not far behind. The small baby steps will soon land us in a new direction and FOGSI has always been a leader in women's health initiative and will do so in cervical cancer elimination.

I dedicate this issue of newsletter for women who have suffered from cervical cancer because we 38000 gynecologists failed to detect and treat the cervical precancers in them.

Dr. Bhagyalaxmi Nayak
Chairperson,
Oncology Committee

CERVICAL CANCER: THE ROAD TOWARDS ELIMINATION

Bindiya Gupta

Associate Professor, Obs and Gyne, UCMS & GTB Hospital, Delhi

In 2020 an estimated 6,04,127 new cases of cervical cancer were diagnosed, and 341,831 women died from the disease globally.1 Cervical cancer remains the fourth most common cancer amongst females and there continues to be a significant disparity in mortality and incidence between higher and lower-income countries. This is primarily due to difference in implementation of prevention and treatment services across countries in the world. The vaccine coverage in LMICs has been low overall, with an estimated 3% of the primary targeted population of young girls in less developed regions vaccinated by 2014.2 By 2016, only 14% of LMICs had established vaccination programmes.3 The screening programmes poorly implemented and not uniform in several LMIC's and access to diagnostic facilities, precancer and cancer treatment, and supportive and palliative care is variable.

Cervical cancer is one of the most preventable and treatable forms of cancer and WHO has developed a global strategy towards the elimination of cervical cancer as a public health problem using the triple strategy of vaccination, screening and treatment. A threshold of 4 per 100,000 women-years has been proposed for elimination as a public health problem.

On 17th November 2020 WHO launched a Global initiative to Accelerate the Elimination of Cervical Cancer which outlined three key steps: vaccination, screening and treatment. This resolution was universally adopted by 194 countries at the World Health assembly. The following 90-70-90 targets should be met by all countries by 2030:4

- 90% of girls fully vaccinated with the HPV vaccine by 15 years of age
- 70% of women screened using a high-performance test by age 35 and again by 45
- 90% of women identified with cervical disease receive treatment (90% of women with pre-cancer treated and 90% of women with invasive cancer managed).

WHO Cervical Cancer Elimination Modelling Consortium (CCEMC) had done a comparative modelling of potential intervention scenarios in 78 low-income and lower -middle income countries using various combinations of vaccination, screening and treatment strategies. Girls-only HPV vaccination was predicted to reduce the median age-standardized cervical cancer incidence in LMICs from 19·8 to 2·1 cases per 100000 women-years over the next century (89·4% reduction), and avert 61·0 million cases during this period. Adding twice-lifetime screening reduced the incidence to 0·7 cases per 100?000 women-years (96·7% reduction) and averted an extra 12·1 million cases. Girls-only vaccination was predicted to result in elimination in 60% (58-65) of LMICs and adding twice-lifetime screening, 100% (71-100) of LMICs reached elimination thresholds. Long-term vaccine protection was required for elimination and introducing twice-lifetime screening along with vaccination accelerated elimination by 11-31 years.[5]

The findings also show significant mortality benefits. By 2030, vaccination combined with scaling up twice-lifetime screening and cancer treatment would reduce mortality by 34·2%, averting 300,000 deaths.[6]

Scaling up vaccination alone would reduce mortality by 61·7%, averting 4·8 million deaths by 2070 and result in 89·5% mortality reduction, preventing 45·8 million deaths by 2120. In addition to vaccination, scaling up with twice lifetime screening and cancer treatment would reduce mortality by 92·3%, averting 14·6 million deaths by 2070 and result in 98·6% reduction in mortality, averting 62·6 million deaths by 2120. With the WHO triple-intervention strategy, over the next 10 years, about half (48%) of deaths averted would be in sub-Saharan Africa and almost a third (32%) would be in South Asia; over the next 100 years, almost 90% of deaths averted would be in these regions.

WHO triple-intervention strategy would also contribute to the realization of the 2030 UN SDGs (target 3.4-a one-third reduction in premature mortality from non-communicable diseases by 2030). The mortality rate reductions of 33·9% by 2030, 96·2% (94·3-96·8) by 2070, and 98·6% (96·9-98·8) by 2120 would be achievable by this strategy. [6]

The strategy also stresses that investing in the interventions to meet these targets can generate substantial economic and societal returns. An estimated US$ 3.20 will be returned to the economy for every dollar invested through 2050 and beyond, owing to increases in women's workforce participation. The figure rises to US$ 26.00 when the benefits of women's improved health on families, communities and societies are considered.[4]

However, challenges are present at all levels of prevention. Generating awareness about vaccination and screening and conveying the message to the masses is a great challenge. This is compounded by the problem of vaccine hesitancy by several countries. [7]Also, vaccine manufacturing pipeline, supply, and delivery challenges have to be met and production needs to be scaled up. Scaling up cervical screening in low and lower-middle income countries, has historically been very challenging. In general, all guidelines recommend HPV -based screening; while visual inspection with acetic acid has been recommended as an alternative in low resource settings.8 Technology development and low cost for HPV test, promotion of HPV self-collection and point-of-care testing, use of screen and treat strategy will potentially provide increasingly practical and cost-effective methods of screening and prevention.[7] Pre-cancer treatment services will need scaling up and a further challenge is establishment of appropriate referral pathways and cancer treatment and palliative care services. Finally, to establish a continuum of efforts, countries will require coordinated efforts from all stakeholders, configuration of central financing and purchasing mechanisms, establishment of public/private partnerships, and the prioritization of cervical cancer control in national cancer control plans.7 Policy must be implemented within the geographic and cultural context of each particular country so that both rural and urban communities have access to affordable care such that women living in the least accessed regions can be equally served.[9]

To conclude, screening and vaccination are cornerstone of cervical cancer elimination. Dr Princess Nothemba Simelela, Assistant Director-General of the WHO, has rightly said "the fight against cervical cancer is also a fight for women's rights: the unnecessary suffering caused by this preventable disease reflects the injustices that uniquely affect women's health around the world. Together, we can make history to ensure a cervical cancer-free future." The need of the hour is immediate action to scale up vaccination, screening and treatment for pre-invasive and invasive cervical cancer to achieve the goal of cervical cancer elimination.

References

1. Estimated age-standardized incidence and mortality rates (World) in 2020, cervix uteri, females, all ages. Globocan 2020. Available at: https://gco.iarc.fr. Accessed on 16th January 2021.
2. Bruni L, Diaz M, Barrionuevo-Rosas L et al. Global estimates of human papillomavirus vaccination coverage by region and income level: a pooled analysis. Lancet Glob Health. 2016; 4: e453-e463
3. Gallagher KE, LaMontagne DS, Watson-Jones D. Status of HPV vaccine introduction and barriers to country uptake. Vaccine. 2018; 36: 4761-4767
4. Das M. WHO launches strategy to accelerate elimination of cervical cancer. Lancet Oncol. 2021;22(1):20-21.
5. Brisson M, Kim JJ, Canfell K, et al. Impact of HPV vaccination and cervical screening on cervical cancer elimination: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020;395(10224):575-590.
6. Canfell K, Kim JJ, Brisson M, et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020;395(10224):591-603.
7. Canfell K. Towards the global elimination of cervical cancer. Papillomavirus Res. 2019;8:100170.
8. Bhatla N, Singhal S, Saraiya Uet al; (on behalf of FOGSI Expert group). Screening and management of preinvasive lesions of the cervix: Good clinical practice recommendations from the Federation of Obstetrics and Gynaecologic Societies of India (FOGSI). J Obstet Gynaecol Res. 2020;46(2):201-214.
9. Beddoe AM. Elimination of cervical cancer: challenges for developing countries. Ecancermedicalscience. 2019;13:975.

◆◆◆

NEWER METHODS OF CERVICAL CANCER SCREENING

Dr. Nabnita Patnaik

Associate Professor

Department of Obstetrics and Gynaecology, AIIMS, Bibinagar, Hyderabad, Telangana , India

Mobile- 9440222136, E-mail : drnabnita@yahoo.co.in

Almost all cervical cancers are either squamous cell carcinoma or adenocarcinoma. The major steps known to be necessary in cervical carcinogenesis include HPV infection, HPV persistence, progression to dysplasia, and invasion. Cervical cancer is the third most common cancer in women worldwide. With continuing improvement in screening methods and vaccination programs in developed countries, the disparity of burden between women in developed countries and women in resource-poor settings becomes even more profound. Currently, >85% of cervical cancer deaths occur in low and middle-income countries. Tragically, cervical cancer is the leading cause of cancer deaths in women of the developing world. However, new technologies have been recently developed to allow for more rapid, cost-effective, and sensitive cervical cancer screening, which have the potential to greatly lower the cervical cancer incidence in the developing world.

New Cervical Cancer Screening Methods

These screening methods may be considered in three broad areas: HPV diagnostics (detection of either the presence of HPV or of viral integration into the host genome), biomarkers of cellular proliferation, and detection of epigenetic changes, either in the host or virus. Several of these methods show promise to improve cervical cancer screening in both low and high-resource settings.

Current recommendations of the American Society for Colposcopy and Cervical Pathology (ASCCP) state that women ages 30 years and older who have normal cytology but are high-risk HPV DNA positive may benefit from genotyping assays for the presence of HPV 16 and 18. Women in whom HPV 16 and 18 is detected should be referred for colposcopy. If other high-risk types are demonstrated, but no HPV 16 and 18 is detected, the patient should be followed with repeat cytology and testing for high-risk HPV DNA in 12 months In women 30 years or older, identification of oncogenic HPV DNA is currently being implemented in high-resource settings to function as a primary screening test, simultaneously with a pap smear. Cost-benefit analyses in high-resource setting suggest that high-risk HPV DNA testing alone may replace cytology as the primary means of cervical cancer screening in women 30 years of age and older. While screening for oncogenic HPV DNA is useful in a high-resource setting, the costs and time involved in running the currently available tests restrict their use in low-resource settings. A rapid, low-cost oncogenic HPV DNA screening test that could be used in low-resource settings has the potential to greatly decrease the worldwide incidence of cervical cancer. One assay currently under development is the careHPV assay (QIAGEN, Gaithersburg, MD, USA) which uses a signal-amplification assay that detects 14 different high risk HPV DNA types (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68), requires only 25×50 cm of work space, does not require electricity or running water, and takes approximately 2.5 hours to perform . This assay time of 2.5 hours, as compared to the approximately 6 hours required for HC2 high-risk HPV testing, allows for evaluation and treatment the same day if needed.

Cytology and HPV Co-testing

Recent updates in cervical cancer screening guidelines include the addition of HPV testing to cervical cytology. HPV-DNA testing can be performed on cervical specimens by signal amplification techniques or by nucleic acid amplification with polymerase chain reaction. In 2003, the Hybrid Capture II HPV-DNA Assay (Digene) became the first FDA-approved test for the detection of high-risk HPV. Since then, 4 additional tests have received FDA approval: Cervista HPV HR (Hologic), Cervista HPV 16/18 (Hologic), Cobas HPV test (Roche Molecular Systems), and APTIMA HPV Assay (Gen-Probe).

In 2003, the FDA approved the use of high-risk HPV testing in combination with cytology (or "co-testing") for cervical cancer screening, specifically in women aged 30 and older. Due to a high prevalence of high-risk HPV infection in women under age 30, identification of HPV in women under 30 puts this group at risk for unnecessary overtreatment. As such, HPV testing is not approved for this age group. HPV testing may be collected as a separate specimen or performed from the remaining LBC specimen after the cytology is prepared. The combination of high-risk HPV testing with cytology can increase the sensitivity of a single Papanicolaou test for high-grade neoplasia from 50?85% to nearly 100%. Due to a very high negative predictive value for high-grade neoplasia, relatively slow progression of HPV infection to neoplasia and increased cost, co-testing is performed at 5-year intervals, provided both test results are negative.

Current guidelines recommend that women aged 21?29 years should be tested with cervical cytology alone, and screening should be performed every 3 years. For women aged 30-65 years, co-testing with cytology and high-risk HPV testing every 5 years is preferred. For this age group, screening with cytology alone every 3 years is considered acceptable.

HPV Testing as Primary Cervical Cancer Screening

In recent years, investigators have studied the utility of HPV testing alone as a primary screening modality. Major societies' guidelines continue to support cytology alone and co-testing as recommended options for cervical cancer screening. In 2015, the American Society for Colposcopy and Cervical Pathology published interim guidelines for the use of the FDA-approved HPV test for primary cervical cancer screening, stating it may be considered an alternative in women 25 years and older. It has been predicted that primary HPV screening may become the standard screening modality within the next decade. If the patient is positive for HPV 16 or 18, colposcopy is recommended. If the patient is negative for HPV 16 and 18 but positive for another high-risk HPV genotype, reflex cytology is performed. If the cytology shows any epithelial abnormality greater than atypical squamous cells of undetermined significance, colposcopy is recommended. If the cytology is negative, follow-up in 1 year is recommended. If the HPV test is negative, follow-up in 3 years is recommended.

One significant advantage to using HPV testing for primary screening is the potential for simplified collection. The greatest issue with HPV testing is cost, need for laboratory processing, and time to obtain results. A new variant of the Hybrid Capture II HPV DNA test has been designed to work in low-resource settings; the care HPV testing system (QIAGEN, Germantown, MD, USA) is a simple, fast, low-cost, and robust method for HPV testing. With this relatively rapid HPV testing, patients may await results and undergo visualization of the cervix with acetic acid (VIA) or digital colposcopy (DC) in the same day. Rapid, more sensitive, and low-cost polymerase chain reaction-based HPV testing systems are currently approved in China and Europe and they are awaiting FDA approval

Figure. AmpFire human papillomavirus detection system, Atila Biosystems.

Digital Colposcopy

Recent advances in digital optical technology have allowed for the development of highly portable digital colposcopes. DC has the same advantages of standard colposcopy but, in addition, ultra-high-resolution digital images can be obtained. These images can oftentimes be magnified to higher degrees than a conventional colposcope and may thereby allow for superior visualization of cervical surface morphology. Studies have been performed with the use of digital cameras and even smartphones to capture colposcopy images. The Enhanced Visual Assessment System (Mobile ODT, Israel), for example, utilizes the advanced optics found in Android smartphones that are quite common, even in low-resource countries

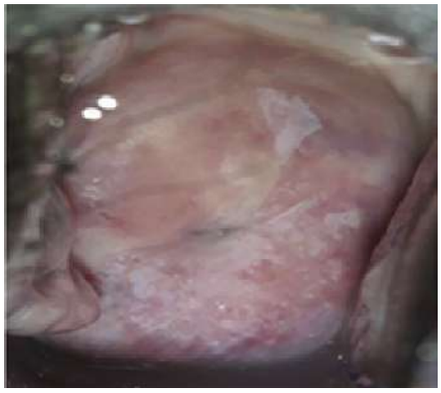


Figure . Enhanced Visual Assessment (EVA) System, MobileODT

A Vision of the Future

Screening a woman just one time in her life after the age of 35 decreases her risk of dying from cervical cancer by 70%. Her risk of dying from cervical cancer drops by more than 85% if she is screened every 5 years. However, more than 1.5 billion women worldwide have never been screened for cervical cancer. As discussed above, the traditional cytology-based screening is not a viable option to screen these 1.5 billion women. However, the new technologies discussed above offer a way to accomplish this daunting goal. It is not hard to imagine a future where screening programs utilize rapid, low-cost, high-volume, self-swab HPV

testing of thousands of women per day. The approximate 15% of women could then have DC by nurses, midwives, or trained local healthcare workers. The images would be interpreted by artificial intelligence software and lower grade lesions could immediately be treated by these same providers with thermocoagulation. Highly skilled providers could then focus their time treating the CIN2-positive lesions. Concurrently, HPV vaccines could be provided to younger members of the community.

Summary

New methods of cervical cancer screening show great promise in allowing all women, regardless of socioeconomic status, to undergo evaluation for cervical cancer. These screening strategies focus on identification of oncogenic HPV infection and viral activity. They are broken into three broad areas: HPV diagnostics (either detection of the presence of HPV or integration of the virus into the host cell), proliferation, and detection of epigenetic changes (either in the host or virus). Many of these methods are in the early stages of development, but p16 evaluation and E6 testing strips show great promise. Through the implementation of new screening methods, practitioners hope to further refine and streamline the evaluation of women at risk of developing cervical cancer.

The Future of Cervical Cancer Screening

New screening methods for cervical cancer are greatly needed, as all current screening methods require an infrastructure for testing and for management of abnormal results. Because of the costs and manpower required for the implementation of an infrastructure, few women in low-resource settings have access to screening for cervical cancer. Future screening methods must address the need for an efficient, cost-effective screening tool that quickly, accurately, and cheaply identify women at risk for HPV-associated malignancies.

Practice Points

- Current cervical cancer screening methods are restricted by the region in which they are implemented
- New methods attempt to effectively, efficiently, and cheaply screen populations regardless of their resources
- New screening methods are broken into three broad areas: HPV diagnostics (either detection of the presence of HPV or integration of the virus into the host cell), proliferation, and detection of epigenetic changes (either in the host or virus).

References

1. Global Cancer Facts and Figures 207. Available from: http://www.cancer.org/acs/groups/content/@nho/documents/document/globalfactsa ndfigures2007rev2p.pdf.
2. SEER data for 2000-2004. Available from: http://seer.cancer.gov/
3. Cancer Facts and Figures 2010. Available from: http://www.cancer.org/acs/groups/content/@nho/documents/document/acspc-024113.pdf.
4. Cancer Facts and Figures for African Americans 2009-2010. Available from: http://www.cancer.org/acs/groups/content/@nho/documents/document/cffaa2009201 0pdf.pdf.
5. Cancer Facts and Figures for Hispanic/Latinos 2009-2011. Available from: http://www.cancer.org/acs/groups/content/@nho/documents/document/ffhispanicsla tinos20092011.pdf.
6. Bosch FX, et al. Epidemiology and natural history of human papillomavirus infections and type-specific implications in cervical neoplasia. Vaccine. 2008;26(Suppl 10):K1-16. [PubMed] [Google Scholar]
7. Stanley M. HPV - immune response to infection and vaccination. Infect Agent Cancer. 5:19. [PMC free article] [PubMed] [Google Scholar]
8. Bosch FX, de Sanjose S. The epidemiology of human papillomavirus infection and cervical cancer. Dis Markers. 2007;23(4):213-27. [PMC free article] [PubMed] [Google Scholar]
9. Schiffman M, et al. Human papillomavirus and cervical cancer. Lancet. 2007;370(9590):890-907. [PubMed] [Google Scholar]

10. Narisawa-Saito M, Kiyono T. Basic mechanisms of high-risk human papillomavirus-induced carcinogenesis: roles of E6 and E7 proteins. Cancer Sci. 2007;98(10):1505-11. [PubMed] [Google Scholar]
11. Cervical Cytology Screening, in Practice Bulletin # 109. American Congress of Obstetricians and Gynecologists. 2009 [Google Scholar]
12. Cuzick J, et al. Overview of the European and North American studies on HPV testing in primary cervical cancer screening. Int J Cancer. 2006;119(5):1095-101. [PubMed] [Google Scholar]
13. Mayrand MH, et al. Human papillomavirus DNA versus Papanicolaou screening tests for cervical cancer. N Engl J Med. 2007;357(16):1579-88. [PubMed] [Google Scholar]
14. Howlader N, et al., editors. SEER Cancer Statistics Review 1975-2008. National Cancer Institute; Bethesda, MD: 2011. [Google Scholar]
15. Follen M, Richards-Kortum R. Emerging technologies and cervical cancer. J Natl Cancer Inst. 2000;92(5):363-5. [PubMed] [Google Scholar]
16. Arbyn M, et al. Pooled analysis of the accuracy of five cervical cancer screening tests assessed in eleven studies in Africa and India. Int J Cancer. 2008;123(1):153-60. [PubMed] [Google Scholar]
17. Goldie SJ, et al. Cost-effectiveness of HPV 16, 18 vaccination in Brazil. Vaccine. 2007;25(33):6257-70. [PubMed] [Google Scholar]
18. Sankaranarayanan R, et al. HPV screening for cervical cancer in rural India. N Engl J Med. 2009;360(14):1385-94. [PubMed] [Google Scholar]

◆◆◆

THERMAL ABLATION: A SAFE AND SIMPLE SOLUTION.

Dr. B. L. Nayak & Dr. Kavin

Cervical carcinoma is one of the most common disease among women - with India accounting for around 16% of the total cervical cancer cases globally. Although the incidences have reduced over the years, cervical cancer is still one of the leading causes of cancer mortality, accounting for 17% of all cancer deaths among women aged between 30 and 69 years.

WHO comprehensive cervical cancer control: a guide to essential practice in 2006 recommended the implementation of screen and treat algorithms where women who are tested positive for screening test are treated with ablative treatment (destruction of the cervical transformation zone, including the lesion). Thermal ablation is another novel ablative treatment for CIN.The equipment is fairly simple and treatment is based on a 20-30 second application of reusable metallic probe that is electrically heated to approximately 100 degree celsius, leading to epithelial and stromal destruction of the lesion.

Thermocoagulation or Thermal coagulation method is slowly growing into a viable alternate treatment procedure, that can be used in the single-visit "screen-and-treat" approach, "see-and-treat" approach and in management of ectocervical CIN in cervical cancer control programs. The procedure is intended to conduct monopolar electrosurgical energy from electrosurgical generator to target the tissue. This treatment protocol has various advantages, in that it is a portable device that uses minimal electricity and can provide a painless and affordable treatment to patients causing minimal adverse reactions and shorter recovery periods.

There are two makes available in India. One is a reusable, handheld, battery powered device that can help treat pre-cancerous cervical lesions in 20 seconds. The other brand is Wisap, which is also available in India.

The devices are designed according to WHO guidelines and recommendations for fighting the growing epidemic of cervical cancer and can be used in hospital and non-hospital rural healthcare locations. The device is also designed to perform low-power destruction of human pre-cancer cervical or other tissue with high temperatures by tissue contact with a heated probe tip.

Dimensions
20 cm (H), 4cm (W), 5 cm (D)

Weight
240 g

Power Output/Consumption
30 Watts

Battery Charging Time
Two (2) hours

Normal Operating Relative Humidity
0% to 80% non-condensing

Power Supply
12 VDC

Treatment Cycle
~5-8 seconds of heat up,
20-40 (selectable)seconds of therapy at 100°C, and
~10 seconds of cool down

Applied Parts
Solid particle protection: Level 2 (>12.5mm)

Battery
Rechargeable Lithium-Ion3-cell 2AH Battery Pack

Normal Operating Temperature Rate
10° to 40° C

Figure 1: Technical Specs of the Thermocoagulator

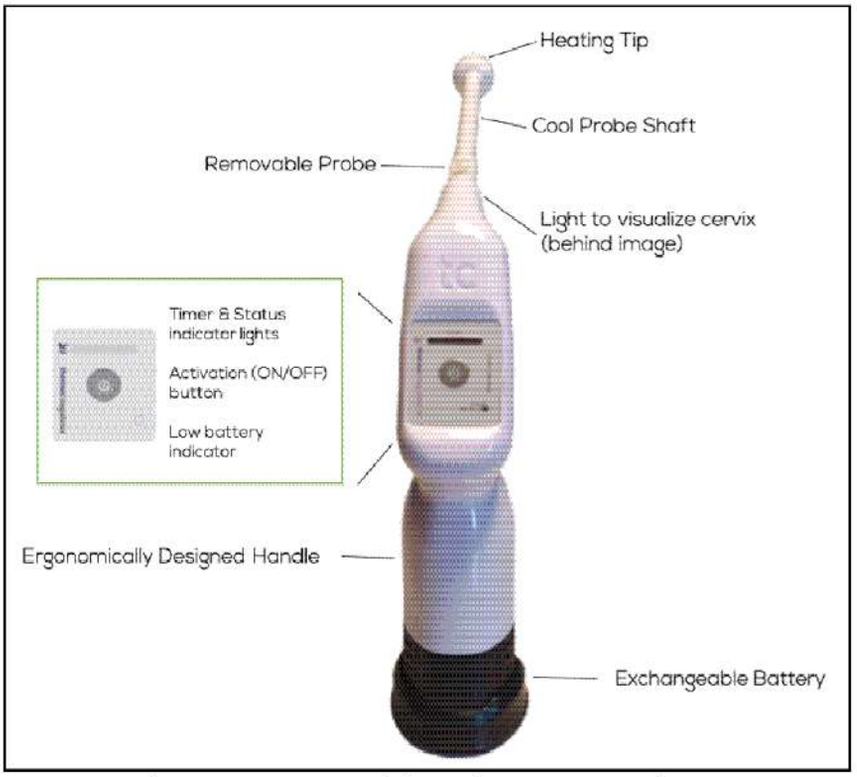


Figure 2: Parts of the Thermocoagulator

A clinical research trial conducted on the device pooled data from five sites in Asia and South America for women treated for CIN with thermal coagulation from March 2010 to October 2015, and followed up within 6 - 12 months after treatment. Estimates of cure, adverse effects, or complications were presented as proportions. Bayesian models were used to assess factors affecting compliance to follow-up and cure rates.

Of the 1,626 women treated for CIN at baseline, 775 (48%) had follow-up evaluation. Attendance for follow-up increased with increasing education and CIN grade, and was less likely to be among those aged ? 40 years. The estimates of the cure after thermal coagu- lation treatment were 88% (475/543) for CIN 1, 83% (113/137) for CIN 2 and 83% (79/95) for CIN 3 lesions. No serious adverse effects or complications were observed throughout the follow-up period for which hospitalization was required. (See more information in Fig3: Effect of Women Characteristics on CIN Cure Rates After Treatment With Thermal Coagulation)

Characteristics	Women with follow-up	Women with no evidence of disease during follow-up, n (%)	Crude hazard ratio (95% CI)	Adjusted hazard ratio (95% CI)*
Women assessed	775	667 (86.1%)		
Age (years)				
< 40	625	538 (86.1%)	1.0	1.0
40+	149	128 (85.9%)	1.1 (0.9 - 1.4)	1.1 (0.9 - 1.4)
Number of pregnancies**				
0 - 1	167	135 (80.8%)	1.0	1.0
2 - 3	434	386 (88.9%)	1.3 (1.1 - 1.6)	1.3 (1.1 - 1.6)
4+	98	84 (85.7%)	1.1 (0.8 - 1.5)	1.1 (0.8 - 1.4)
Baseline histological diagnosis				
CIN 1	543	475 (87.5%)	1.0	1.0
CIN 2	137	113 (82.5%)	1.1 (0.9 - 1.4)	1.2 (0.9 - 1.4)
CIN 3	95	79 (83.2%)	1.1 (0.9 - 1.4)	1.2 (0.9 - 1.5)

*All variables included in the adjusted regression model. **Percentages obtained from the total of 699 participants for the three sites that provided the information. CI: confidence interval; CIN: cervical intraepithelial neoplasia.

Figure 3: Effect of women characteristics on CIN Cure Rates after treatment with Thermal Coagulation

A prospective analytical study was conducted in low-resource setting in Africa comparing thermocoagulation versus cryotherapy for treatment of cervical precancers.They found that cryotherapy and thermo-coagulation have similar efficacy in the treatment of cervical precancers .Thermal coagulation offers lower cost and lower duration of treatment, less side effects and higher patient satisfaction than cryotherapy(Chibuike O. Chigbu, 2019). From the pooled data from Bangladesh, Brazil and India, thermal coagulation was effective, safe and accepted in treatment of women diagnosed with CIN. It should be used for single- visit Screen and treat approach (Nessa, 2017).

A recent webinar on November 12, 2020 was conducted under the FOGSI Oncology Committee and FOGSI Food Drugs and Medicosurgical committee banners, on Thermo Coagulation as a new concept in the management of precancers of the cervix. Attended by key Doctors and experts, the webinar brings forth an interesting discussion on this new concept and a live demo of this handheld device. You can view the live recording of the webinar on zepnurhealth.com or fogsi.org

References

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6396551/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5234166/

https://www.cancer.gov/types/cervical/patient/cervical-treatment-pdq

http://www.curemedicalglobal.com/difference-between-thermocoagulation-and-cryotherapy/

Thermo?coagulation versus cryotherapy for treatment of cervical precancers: A prospective analytical study in a low?resource African setting Chibuike O. Chigbu ,Elijah N. Onwudiwe ,

Azubuike K. Onyebuchi. Journal of Obsterics & Gynecology Research, 2019

Efficacy, Safety, and Acceptability of Thermal Coagulation to Treat Cervical Intraepithelial Neoplasia: Pooled Data From Bangladesh, Brazil and India

Ashrafun Nessa, Paolo Naud, Pulikottil Okkuru Esmy, Smita Joshi, Prabhakaran Rema, Ramani Wesley, Mohammed Kamal, Catherine Sauvaget, Richard Muwonge, Rengaswamy Sankaranarayanan .J Clin Gynecol Obstet. 2017;6(3-4):58-64

◆◆◆

ESSAY-3 (1ST PRIZE WINNER OF ESSAY COMPETITION)

CERVICAL CANCER PREVENTION : OLD PROBLEM NEW SOLUTIONS

DR. RAJAT SHARMA

Cervical cancer a constant threat to women in reproductive, perimenopausal and menopausal age- is second most common cancer in women living in less developed regions with an estimated 570 000 new cases in 2018 (84% of the new cases worldwide). Almost 9 out of every 10 of these, or 231 000 women in total, lived and died in low- to middle income countries, just 1 out of every 10 of these women, lived and died in high-income countries.Only preventable female malignancy which is yet to be conquered, a struggle which still continues. WHO, FIGO , FOGSI along with all major frontline agencies has accepted the challenge of eradication of cervical malignancy by 2030.

DrTedros has rightly said that-"Through cost-effective, evidence-based interventions, including human papillomavirus vaccination of girls, screening and treatment of precancerous lesions, and improving access to diagnosis and treatment of invasive cancers, we can eliminate cervical cancer as a public health problem and make it a disease of the past".

Emphasis is to be given more on the core areas of :

1) Outreach services - Involvement of all young girls and women, men's and boys for all levels of prevention.
2) Community mobilization- Despite of all social taboos , language, culture differences its time to think from me to mine to others.
3) Health education- in their regional languages should be culturally appropriate, consistent and continuous at all levels of health care.
4) Counselling definitely plays a great role for effective implementation and great outcomes.

Areas on which more work is to be done are :

- HPV vaccination of girls aged 9-14 years, before they become sexually active.
- Health information and warnings about tobacco use
- Sex education tailored to age and culture, Male circumcision
- Condom promotion and provision for those engaged in sexual activity
- Development of leadership qualities with self sufficiency at every level with involvement of girls and boys in the making of 'KISHOR KISHORI PANCHAYAT' for awareness of adolescent health.
- Proper supportive familial and community support with strong determination is must.
- Regular screening of all sexually active women along with referral to higher facility in case of suspicion.

- Technology can be used for keeping the track and trace of the patient throughout the testing procedures and follow up.
- Incentives to be given to all the employees in both government and private set up for screening for cervical malignancy as per the age criteria.
- For any insurance or enrollment for the job one must undergo cervical screening with inclusion in health .
- Social platform for continuous awareness.

The moment has arrived for an ambitious, concerted and inclusive strategy to accelerate the elimination of cervical cancer as a global public health problem. It is our collective responsibility to bring it to fruition: policy makers, healthcare providers, civil society, the research community, and the private sector all have important roles to play.

Now is the time to act.

JUNIOR RESIDENT 3
GOVT. MEDICAL COLLEGE, AKOLA
E-mail : rajatshrm578@gmail.com
CONTACT NO : 9890974340, 9284411019

◆◆◆

ESSAY-4 (2ND PRIZE WINNER OF ESSAY COMPETITION)

CERVICAL CANCER PREVENTION : OLD PROBLEM NEW SOLUTIONS

Dr PRATYASHA PEEPAL

"जननी जन्मभूमिश्च स्वर्गादपि गरीयसी"

India is a land of great social diversity,culturalcomplexity&regional variation but it is difficult to make unqualified generalisation regarding role&status of women in indiansociety.Instances of RANILAKSHMIBAI,PRATIBHAPATIL,INDIRAGANDHI prove that women can lead country from strength to strength.Sadlythey are trapped in the vicious cycle of poverty,illiteracy&illhealth,one such silent notoriety called cervicalcancer is rooted deep in our healthsystem.

It is the commonest cancer amongst Indian females &India contributes 25.41%to the global disease burden.But as they say "AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE".Cervical cancer is one of the few diseases which is completely preventable.Women in India are an ignorant lot driven by canards,rumor and halfbakedinformation.So the need of the hour is to educate them about the riskfactors,symptoms,preventivetools,diagnostic procedures and importance of handling the disease at an early stage.

The prevention can be primary in the form of vaccination& interventions in high risk women or secondary which includes the screening techniquesThe USA Food&Drug administration has approved 3 vaccines against HPV(Human Papillomavirus)infection-GARDASIL,CERVARIX &GARDASIL-9.Girls between 9-14 years should be vaccinated prior to onset of sexual activity.But the key challenge is highcost and non-delivery to target population which can be addressed through easy accessibility,affordability&sustainable financing.. We know that"A good beginning is half done".So the simplest measures like raising marriageable age,postponement of childbirth,maintaining genital hygiene,sexeducation,barrier contraception use and most importantly smoking cessation can not only protect against the cancer but also in elimination in years to come.

The goldstandard method for screening is PAPANICOLAOU TEST or PAP SMEAR.It has helped in reducing cancer deaths to 70%,over past five decades.However it has few limitations and one-third carcinoma cases have normal pap.So to increase the sensitivity and decrease false negative results,various new techniques like liquid based thin layer cytology and computer assisted methods like AUTOPAP&PAPNET are gaining popularity.VIA(visual inspection with acetic acid)is a good alternative having higher sensitivity,inexpensive and feasible in low resource places.

A very important diagnostic procedure to diagnose premalignant lesions is colposcopy.Recently FDA approved a handheld endoscope called GYNESCOPE for enabling realtimevisualisation,documentation and remote diagnostics and it can be used in places where health facilities are sparse.Studies are underway on electronic detection techniques like fluorescence spectroscopy and polarprobewhich might become a

revolutionary force in cervicalcancer prevention.

Apart from HPVDNA testing which is widely used now, somepotential biomarkers like HPV E6&E7 protein,telomerase ki-67,squamous cell carcinoma antigen,cell adhesion matrix protein ,miRNA have great preventive & predictive valuewhich are in the developing stage. CLINICAL DOWNSTAGING suggested by WHO can prove to be the most important preventive stratergy.

"JOURNEY OF A THOUSAND MILES BEGINS WITH A SINGLE STEP".It is exhilarating to know that WHO has a mission to make the world disease free but to our utter dismay a preventable disease like cancercervix is mercilessly claiming lives of millions of women.So to tackle the grave situation we need to reform the entire system and formulate a new stringent policy .With courage,forthright attitude and collective efforts of doctors,nurses,paramedics,researchcommunityand policymakers we can successfully fight this menace.

◆◆◆

ESSAY-6 (3RD PRIZE WINNER OF ESSAY COMPETITION)

CERVICAL CANCER PREVENTION : OLD PROBLEM NEW SOLUTIONS

Dr D Leela

MD, DGO, DNB, FRCOG
E-mail : digumarti2001@yahoo.com

Cervical cancer is known to human race since the time of Pericles Hippocrates (400 B.C.). It was thought to be incurable at that time. But, today, we know HPV vaccination prevents, screening helps for detection of pre-cancer and early cancer and timely intervention offers cure to women.

In spite of all available proven measures for prevention, cervical cancer still kills a many women worldwide. One woman is dies from this cancer every two minutes. It has become a major public health problem especially in middle and low income countries. India is no exception. It is a big challenge for us to implement the WHO "Global strategy for elimination by 2030 with 90-70-90 targets".

The road blocks:

Only a small percentage can afford vaccination.

Screening is still opportunistic and coverage is erratic due to various reasons.

Treatment facilities and palliative care is confined to cities and bigger towns.

Our approach:

1. A novel idea of combining screening and vaccination for eligible mother-daughter pairs. An ideal place is the school, where, simultaneously, girl students and their mothers are educated about screening and vaccination. As mothers accompany their daughters, both their own screening and vaccination can be done in one go. This idea was tested as a pilot project in 3 village schools. Response was heartening, with a 98% coverage. Our pilot project was funded undercorporate social responsibility (CSR).

2. Taking the help of NGOs who adopt villages: Village heads and villagers trust the Good Samaritan role of NGOs and adhere to their advice. This becomes very useful in creating awareness and motivating women for screening. Majority in our pilot project come forward as long as there is no financial burden.

3. Working with voluntary groups and community health workers who regularly go into community: In our experience over the past 6 years, this wassuccessfulin winning the confidence of villagers, urban poor as well as the middle and upper classes in motivating them for screening and treatment where needed.

4. Role of health care workers: Screening need not be confined to gynaecologic practices.Indeed, this can be done by any medical person - with adequate training and suitable incentive. Oncologists caring for women with cervical cancer have an opportunity to motivate family, friends, relatives and neighbors about screening and vaccination. In our experience, the acceptance rate for both is very high.

5. Outreach clinics with a structured referral pattern: These form of a part of our day care centres and are useful for vaccination, screening, early diagnosis, treatment of pre-cancer, referral for definitive treatment, follow-up and palliative care.

6. Manpower training: The NICPR-ICMR, ECHO-India program initiated at our centre has successfully trained nurses across the country.

7. Our emphasis during this Covid 19 pandemic is on self HPV testing, eliminating the need for a clinic visit or any other screening method.

◆◆◆

SLOGAN COMPETITION

1st Prize

"We CAN and we WILL win the FIGHT
A small step of VACCINATION and SCREENING to make it RIGHT"

Sarita Kumari
MBBS (AIIMS) MD (Obstetrics and Gynecology, AIIMS)
DNB
Senior Resident (Acad)
M.Ch Gynecologic Oncology, AIIMS, New Delhi

2nd Prize (Odia)

ଯଥାସମୟ ଟୀକା ଓ ନିୟମିତ ପରୀକ୍ଷଣ ..
ଜରାୟୁ କର୍କଟରୁ ରକ୍ଷା କରଇ ଜୀବନ ....

Timely vaccination and regular testing.
Saves Lives from Cervical cancer ....

Dr Debasis Giri
Pg SCB MCH,Cuttack

3rd Prize (Telugu)

సకాల నిర్ధారణ సమూల నిర్మూలన

EARLY DIAGNOSIS, COMPLETE ERADICATION
Sakāla nirdhāraṇa samūla nirmulana

Dr. V. Neha Nirmal
MS (OBG)

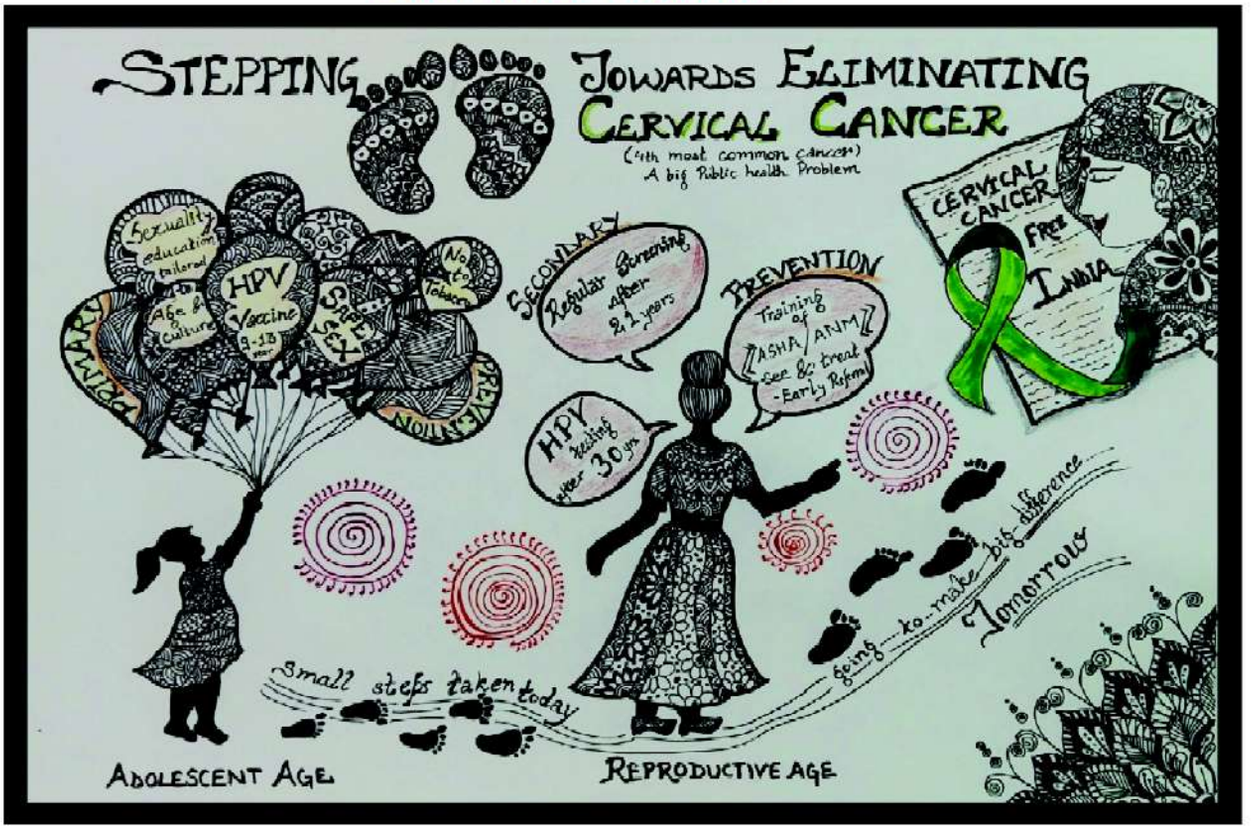
1st Prize winner of Poster competition

Dr Ramesh Babu.

S. Hassan Society

2nd Prize winner of Poster competition

Sushruta Shrivastava



3rd Prize winner of Poster competition

Dr. Monika Dewan