AOGIN INDIA NEWS LETTER

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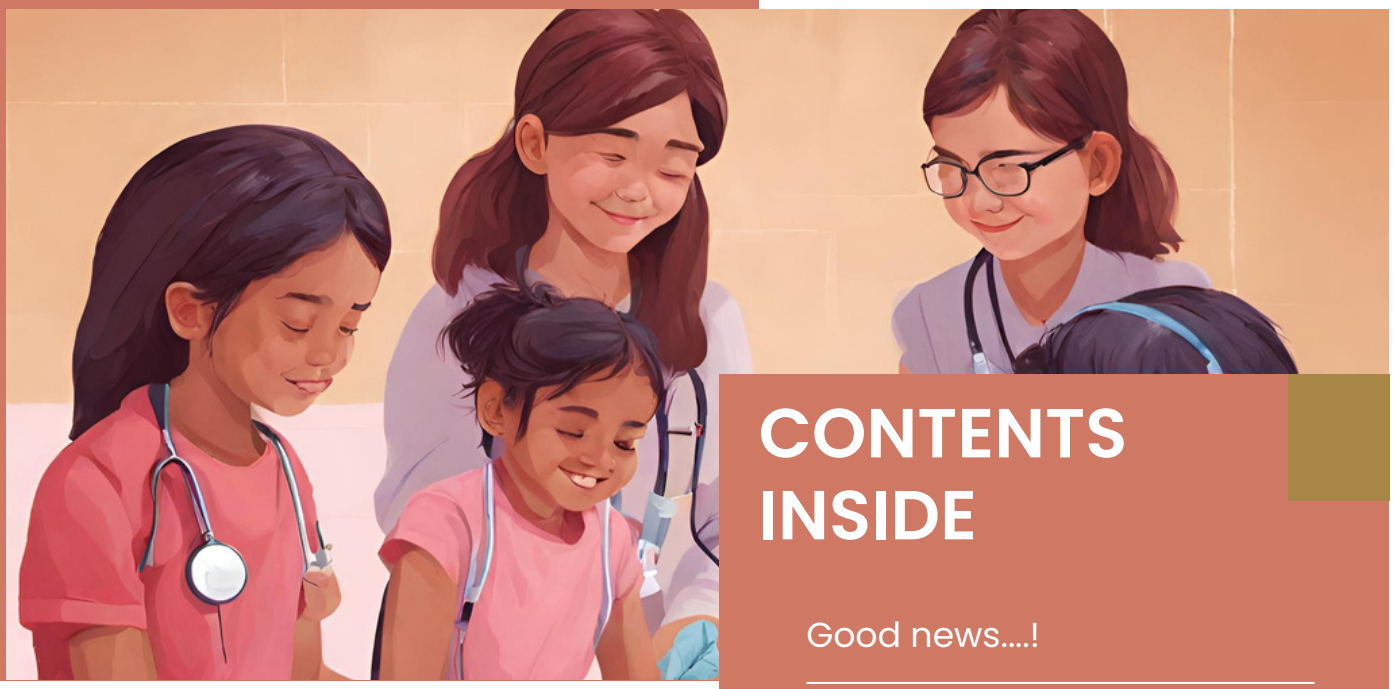

CONTENTS INSIDE

EVENTS, NEWS AND ACADEMICS

This newsletter brings you new information about the happenings since your last newsletter.

Let us share our contributions, our concerns, and our ideas about women's health.

A new year with new roles and responsibilities... and with yet another new issue of AOGIN INDIA newsletter!

Towards WHO 2030 goals

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Letter from the President and the Secretary

Dear AOGIN – India Members,

This newsletter brings a recap of our last annual conference at Rishikesh in November 2022. We will be adding the conference report to our website as well. This, we thought we would do for every annual conference, so it becomes part of the AOGIN- India narrative.

The colposcopy MDTs happen every month and are usually very well attended. They provide valuable insights into colposcopy practice from all over India and are a valuable resource for our postgraduates. We hope to incorporate guest lectures into the academic calendar too.

The AOGIN India interim CME (Continuing Medical Education) will be heldon Saturday, 4th May 2024 at New Delhi and the annual AOGIN India Conference will be held at Puducherry, South India on the 4th & 5th of October 2024. Please block your dates for these events.

Do go through the newsletter for details of the research & community grants awarded by the AOGIN India!

With warm wishes,

till we meet again,

Dr Rupinder Sekhon

Dr Latha Balasubramani

WHAT'S NEW?

Keep an ear to the ground!

Dr. Vinotha Thomas
CMC Vellore

After its introduction in September 2022, the Indian made quadrivalent HPV vaccine was formally launched by our Home Minister, Shri Amit Shah, on 24th January 2023. It was soon made available in the private market, last year. The vaccine became one of the highlights of interim budget, presented on February 1st, 2024. According to the Finance Minister, Shrimati Nirmala Sitharaman, the government's plans to focus on vaccination against cervical cancer for girls aged 9 to 14.
This announcement will indeed prove the budget to be from a government with care, conviction, and confidence when we see it in reality.

JOURNAL SCAN

SPATIOTEMPORALLY DECIPHERING THE MYSTERIOUS MECHANISM OF PERSISTENT HPV- INDUCED MALIGNANT TRANSITION AND IMMUNE REMODELLING FROM HPV- INFECTED NORMAL CELL, PRECANCER TO CERVICAL CANCER: INTEGRATING SINGLE CELL RNA-SEQUENCING AND SPATIAL TRANSCRIPTOME – AN ARTICLE REVIEW

Dr. Swathy.R
DNB PG (OBG)
GKNM Hospital, Coimbatore

Introduction

Cancer Cervix (CC) is the fourth leading cause of cancer death in women. It is well known that CC arises as a result of persistent HPV infection (commonly HPV 16,18). This study gives a comprehensive atlas of the cervical ecosystem providing deeper insight into the mechanism of persistent HPV infection-induced cervical carcinogenesis and promising treatment targets for CC.

Identification of cellular subsets and their alteration during malignant transformation

The study was conducted on a sample of 9 patients (2HPV-negative normal, 2 HPV- positive normal, 2 HPV-positive HSIL,3 HPV positive cancer samples). Sc-RNA sequencing on these samples showed 4 major structural cells (predominantly epithelial cells) and 6 immune cells (predominantly NK/T cells and myeloid cells)

HPV sequence blasting on epithelial clusters showed 7 HPV-infected epithelial clusters. Cluster 1& 3 (HPV related normal clusters) expressed multiple tumor suppressors (SLC5A8, DERL3) thereby suppressing cell proliferation, migration and invasion suggesting protective mechanism after HPV infection. Cluster 2(HPV-related HSIL clusters) expresses gene related to cell adhesion (CDH16, CDH17 and VSIG1) and extracellular matrix degradation

(CTSE), enhancing progression. Clusters 6,7,9,13(HPV related -CA clusters) expressed (CASP14, PRSS27, CALML5) related to carcinogenesis pathway showed significant copy number variation than other clusters.

Spatial transcriptomics done on these samples showed abundant HPV-related normal clusters in HPV-positive normal tissue, HSIL clusters in HSIL tissue, and cancer clusters in cancer tissue. HPV blasting analysis revealed low HPV titres in HPV-positive normal tissue, whereas in HSIL tissue HPV gene integration occurred mainly in HSIL foci. Additionally, they found widespread HPV gene expression in SCC tissue, confirming the decisive contribution of persistent HPV infection to carcinogenesis.

Explored pseudotime trajectory to study epithelial cell malignant transformation, revealing 6 notable genes. Three (SPRR3, CEACAM7, APOBEC3A) were upregulated stimulating cervical lesion. Other 3 genes (TCN1, TFF3, BPIFB1), described as progression-protective genes were downregulated. Hence, early intervention by inhibiting the tumor suppressor gene and promoting the progression-protective gene could prevent disease progression.

Among CD8+ T cell subtypes, Temra (recently activated effector memory) clusters (CX3CR1) were involved in fighting against persistent viral infection thus signifying its antiviral effect. Tex (exhausted) cell clusters demonstrating dysregulation and exhaustion of CD8+ T cells were more abundant in CA tissue. MIAT clusters of CD8+ T cells abundant in HSIL tissue were involved in immune surveillance. Thus, investigating the ways to stimulate and strengthen anti-tumor function of CD8+Temra could be a new direction in immune therapy.

Among CD4+ T cells 5 subtypes were identified (Tregs, Tems, naïve Tcells,Th17 cells and Th1 -like T cells), TH17 cells expanded after HPV infection however, decreased in numbers as cervical lesion progressed highlighting the antiviral properties of Th17 cells. Th1 cells expanded as persistent HPV infection progressed into HSIL whereas Treg cells dominated during the malignant transition from HSIL to cancer. Th17/treg imbalance homeostasis might lead to failure of HPV clearance and disease progression.

(Th1/Treg imbalance might lead to carcinogenesis. Hence, targeted therapy to reactivate Th cells and inhibit treg cell can be considered.

Among myeloid population, pDC activated by toll like receptor produce INF-alpha thereby preventing viral genome replications. In virus infected cells, pDC levels were elevated with decreased INF-alpha production conveying its functional impairment. pDC were reported to play a role in natural immune response against HPV infection, whereas acquired pDC dysfunction could promote tumor progression. Hence, pDC could be considered as another promising target.

Among Macrophages the pseudotime trajectory showed shift from M1 (pro inflammatory) like to M2 (anti-inflammatory) like polarization during disease progression, highlighting macrophage polarization as potential target treatment in CC.

Intercellular communications among these cells has shed light on mechanisms underlying the malignant transition and has revealed multiple potential therapeutic approach for CC. CEACAM 5 expression was closely related to HPV DNA integration into host genome. CEACAM 5 was over expressed in various carcinomas and is one of the target gene for HPV gene integration. Hence, CEACAM 5 might serve as a crucial treatment target for HPV related CC.

Conclusion

To summarize, this study has identified many areas to prevent progression of HPV infection to CC through HSIL. Further research in these areas is required to enable clinical application to prevent HPV integration and subsequent progression to cervical cancer.

Guo C, Qu X, Tang X, et al. Clin Transl Med. 2023; 13:e1219. https://doi.org/10.1002/ctm2.1219

From AOGIN India members who make us proud

Cervical Cancer Awareness Programme and screening camps at Amritsar from JANUARY 2023 to DECEMBER 2023

I am Dr. Preeti Dev from Amritsar, a life member of AOGIN and ISCCP, Fallow of IARC, and colposcopist for the last 15 years. I along with Phulkari women of Amritsar, an NGO working for women's empowerment organised cervical cancer awareness programme and screening camps with HPV testing. We have organized 90 such episodes in and around Amritsar with the hope of making Punjab first cervical cancer Free state, we are also procuring vaccines at cheaper prices to improve vaccination in our area.

TEAL ILLUMINATION OF CAMPUS
AT AMRITSAR GROUP OF COLLEGES MANAWALA

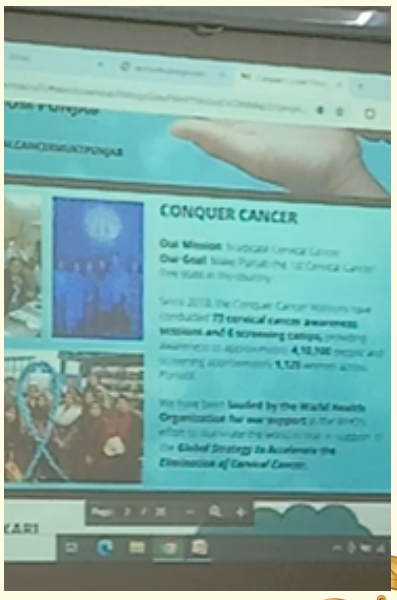
From AOGIN India members who make us proud

Awareness and screening program at Airport, Amritsar

From AOGIN India members who make us proud

Awareness program at Khalsa college for Technical Education Amritsar

Awareness camp at Majha Public School Tarantaran



ONE dose ONE life

Cervical cancer is the only preventable cancer known so far. The Global Strategy for Cervical Cancer Elimination stays put on 3 strong pillars - vaccination, screening/early detection, and early case management. The concerted efforts of AOGIN members are targeted towards cervical cancer elimination in India. Aligning with the same, Preventive Oncology at Dr. BRAIRCH, AIIMS, New Delhi facilitates HPV vaccination for eligible walk-in patients and patient attendants. They are enrolled in the vaccination camp list over a period of 3-6 months. The camps are organized with the support of funding agencies like registered NGOs and CSR initiatives time and again.

One such camp was organised on 23rd December 2023 with the support of the NGO, The Cancer Foundation. Based on recent SAGE (Strategic Advisory Group of Experts) guidelines on Immunization, WHO now recommends one or 2 doses of this vaccine for girls/women agents less than 20 years old. In the camp, 41 beneficiaries aged <20 years were vaccinated with a single dose of quadrivalent Gardasil vaccine.

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From AOGIN India members who make us proud

ONE dose ONE life

From AOGIN India members who make us proud

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Cervical Cancer Vaccination program

In support of World Health Organization's Global Strategy for Elimination of Cervical Cancer, HPV Vaccination Program for rural and peri-urban adolescent girls in Mysore was inaugurated on 19th December in JSS Hospital by Dr.Suresh Bhojraj, Pro-Chancellor of JSS Academy of Higher Education & Research, Dr.M.S. Jayanth RCHO Mysore, Department of Health and Family Welfare Services - Govt.of Karnataka, Dr.H. Basavana Gowdappa, Principal, JSS Medical College, Mysore, Dr.Purnima Madhivanan, Founder Public Health Research Institute of India (PHRII) andDr. Madhu C.P., Medical Superintendent, JSS Hospital. Six girls from JSS High School, Nachanahally Palya were given the HPV Vaccine (Gardasil - 9) which acts against 9 types of HPV which causes cervical cancer among other cancers. As an initial start, PHRII and JSS AHER have committed to vaccinating 200 girl children across Mysore with this vaccine. This program has been sponsored by SUN PHARMA. The HPV school vaccine program was pioneered by PHRII in collaboration with JSSAHER in Mysore District. The inauguration program was featured in two leading news outlets in Mysore - Star of Mysore and Mysore Mithra. This vaccination program will be continued in January to highlight that January is the Month of Cervical Cancer Awareness. As a part of this school vaccination program, we vaccinated 31 girls on 6thJanuary in a school at Ullahalli, Mysore after an awareness program for parents and girls about cervical cancer prevention.

This draft is sent by Dr Vijaya Srinivas who is responsible for this message. Best Regards,

Dr Vijaya Srinivas
Senior Research Physician, PHRII

From AOGIN India members who make us proud

Cervical Cancer Vaccination program by the PHRII, Mysuru, India

AOGIN India Grant
for Community Based Cervical Cancer Screening

Objectives:

To provide facilities for screening and early detection of cervical cancer specially to women who have limited access to such services and also to encourage AOGIN India members provide the screening services to the community. The grant should be utilized to screen women between 30 to 60 years of age as per the Indian national guidelines.

Eligibility:

• Any AOGIN India member can apply for the fund either in individual capacity or through an organization

• Should have facilities to screen women by either VIA or Pap smear or HPV detection methods

• Facilities to perform Colposcopy and biopsy for the screen positive women must be available

• The applicant should have appropriate set up to treat the screen detected CIN2, CIN3 or invasive cancer

• At least 100 women should be screened utilizing the grant

• A candidate can reapply for the grant after submission of the report of the work done utilizing the previous grant

Amount of Grant:

Every calendar year three such grants, each amounting to maximum Rs. 10,000 (all inclusive) will be offered. The grant should be utilized to meet the expenses of holding the screening clinics, performing the screening tests, colposcopy and biopsy. No other claims for reimbursement will be entertained.

Application for the Grant:

Applications for the grant will be received twice a year and will be closed as soon as three grants have been offered. The last dates for receiving applications are 30 June and 31 December for first half and second half of the year respectively. The application form can be downloaded from the AOGIN India website.

The filled-up form and requisite documents should either be e-mailed to president@aoginindia.in or sent by post/courier to the AOGIN India office. All applications will be reviewed by a group of referees designated by the Community-Based Activities Committee Chairperson, AOGIN India. The successful members will be informed about the sanction of the grant within one month of the last date of application. The awardees will have to conduct the screening camps within the stipulated time mentioned in the offer letter. In case there is a delay in organizing the said detection camp, the member must give a suitable justification, without which the offer will become null and void. The decision of the AOGIN India Committee for Community-Based Activities will be final.

Method of Payment:

Payment will be made through an A/C Payee cheque in the name of the member or the organization on submission of a performance report along with original bills and vouchers. The performance report should include copies/information of any media coverage of the program as well as any educational materials utilized. A few photographs of the screening camp with the AOGIN banner in the background should be sent along with the report.Payment will be made either to reimburse actual expenditure or Rs. 10,000, whichever is less.

Address for Correspondence

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Application Form

AOGIN INDIA MEMBERSHIP NO: _____/applied for

(those who have applied for membership may also apply)

FIRST NAME:	MIDDLE NAME:	SURNAME:
ADDRESS:		
CITY:	STATE:	PIN:
TEL:	FAX:	E-MAIL:
ACADEMIC QUALIFICATIONS (Highest degree/diploma only):		
DIP/DEGREE:	INSTITUTION:	YEAR:
EXPERIENCE:		
PRESENT DESIGNATION:		DATE OF JOINING:
DEPARTMENT:	INSTITUTION:	
ADDRESS:		
The application should be forwarded by the Head of the Department/Institute when applicable		
REASON FOR WHICH GRANT IS APPLIED		
Expected number to be screened:	Place (s) where the camps will be held:	
START DATE:	END DATE:	
INSTITUTION/ORGANIZATION, IF ANY, WILL BE INVOLVED		
PLEASE WRITE IN 300 WORDS THE PROPOSAL FOR HOLDING THE SCREENING CAMPS INCLUDING PLAN FOR FOLLOW UP OF SCREEN POSITIVE WOMEN		
FACILITIES AVAILABLE:	Colposcope: Yes/ No Cryotherapy: Yes/ No LEEP: Yes/ No	
CHEQUE TO BE ISSUED IN FAVOUR OF:		
SIGNATURE:	DATE:	

This newsletter was compiled and edited by Drs. Vinotha Thomas, Jayashree Natarajan and Latha Balasubramani.

Please send in your contributions to the next newsletter to

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