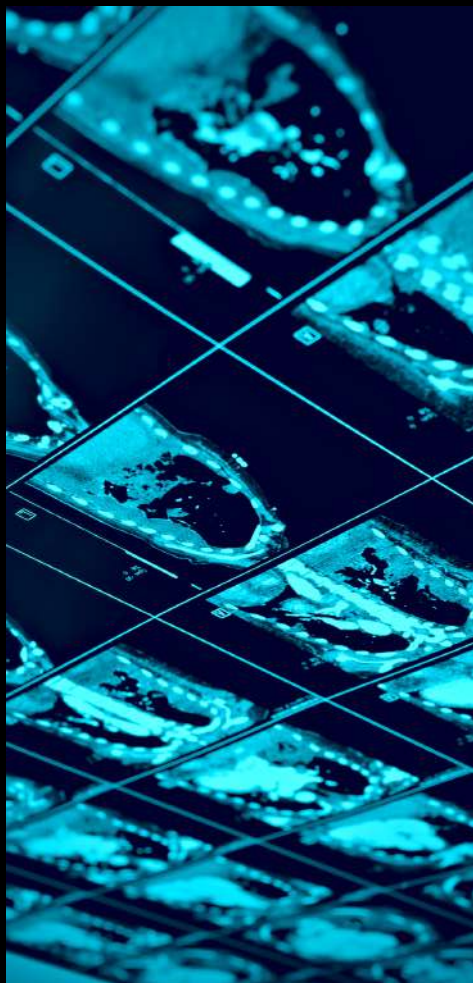
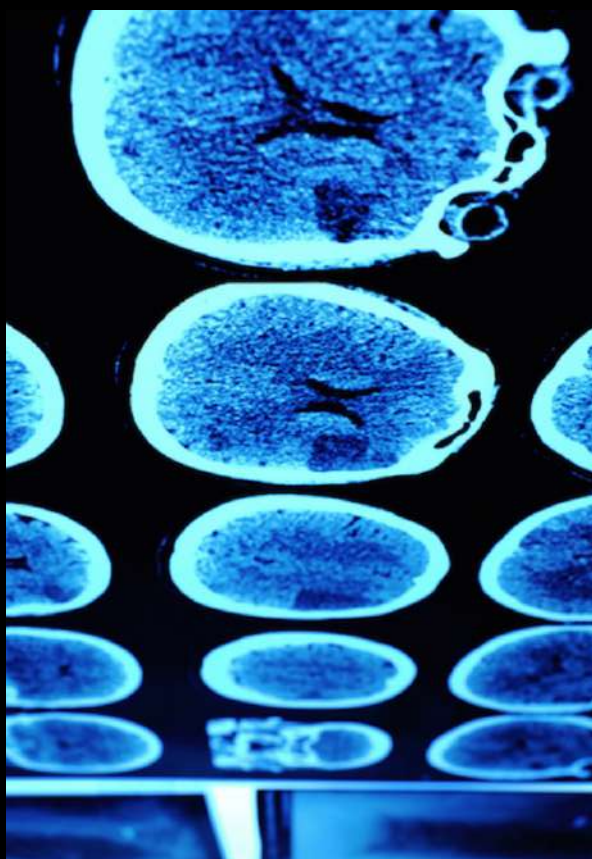


SCREENINGS THAT SAVE

Cancer Prevention and Detection

October 2020 - September 2021



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Columbia Global Centers | Mumbai

Columbia Global Centers | Mumbai is one of Columbia University's nine global centers that serves as a research, education, and knowledge hub for promoting new and informed ways of addressing global challenges. The Center conducts innovative and interdisciplinary research, designs educational opportunities for students and professionals, and disseminates research to wider publics in academia, government, civil society, and the private sector. By connecting the University's world-class scholars and students with peers from the region, the Mumbai Center works to deepen knowledge that can transform society.

Herbert Irving Comprehensive Cancer Center

The Herbert Irving Comprehensive Cancer Center (HICCC) is the home for cancer research and patient care at Columbia University and NewYork-Presbyterian/Columbia University Irving Medical Center. The Cancer Center researchers and physicians are dedicated to understanding the complex biology behind cancer, from before it begins to its evolution and spread. The Center applies that knowledge to the discovery and design of innovative cancer therapies and prevention strategies that reduce the disease's incidence and progression and improve the quality of life for all those affected—in the region and throughout the world.



“Cancer incidence and mortality are escalating in India, as typified by the situation in numerous countries across the world. Prevention, screening and early detection are of vital importance for reducing the escalating cancer burden. To that end, the partnership between the Columbia University Irving Medical Center and Columbia Global Centers | Mumbai for the 'Screenings that Save' initiative strengthens this endeavour in India and beyond.”

Anil Rustgi, Director,
Herbert Irving Comprehensive Cancer Center

INTRODUCTION

An estimated two-thirds of the eight million cancer-related deaths worldwide occur in low and middle income countries. In India, the cancer burden has more than doubled in the last two decades. Lack of awareness, delay in diagnosis, sociocultural attitudes, and the uneven concentration of cancer centers in metropolitan areas are some of the challenges that hinder the timely detection of cancer in the country.

With limited healthcare infrastructure, the most effective way to tackle the rising burden of cancer is prevention. Recognizing the key role that screening programs (in people without symptoms) play in reducing cancer, Columbia Global Centers | Mumbai partnered with the Herbert Irving Comprehensive Cancer Center in New York to launch a seminar series entitled *Screenings that Save: Cancer Prevention and Detection* in October 2020. Six virtual panel discussions were held over the year, featuring 17 cancer experts from Columbia University and Indian institutions.

The webinars identified global trends and India-specific practices to provide a platform for knowledge exchange. They shed light on risk factors and feasible steps that could be implemented to promote early detection and prevention for improving survival outcomes in India and the world. Speakers also addressed challenges in cancer care during the recent coronavirus pandemic. The series, which had a wide outreach, generated three important findings:

- Our current research on cancer has huge gaps; there are enormous disparities in data from populations and countries with fewer resources
- Collaboration between health and medical experts across borders is essential
- Investment in cancer needs to be ramped up, both from public and private donors

In the following pages, we have highlighted aspects of each presentation to disseminate information that was presented in the webinar in a readily accessible format. Our commitment to this program is made possible through the generous support of our Advisory Board and donors, especially Dr. Yusuf Hamied. We thank Dr. Anil Rustgi and the HICCC team, the Mailman School of Public Health, and our inspiring speakers for their partnership in our effort to strengthen expert networks and share knowledge of a disease, sometimes feared and stigmatized and at other times neglected or understood too late.



Ravina Aggarwal, Director,
Columbia Global Centers | Mumbai

PREVENTING BREAST CANCER



Webinar Date: October 6, 2020

PANELISTS



Roshni Rao
Chief, Breast Surgery
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Presbyterian Columbia
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Sumeet Shah
Chief Oncologist,
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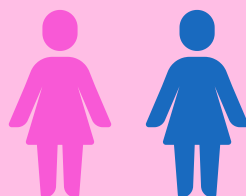
Mary Beth Terry
Professor of
Epidemiology, Mailman
School of Public Health,
Columbia University

EPIDEMIOLOGY

Breast cancer is the most common cancer among women. In terms of mortality, it is the fifth leading cause of cancer-related deaths in the world.

In India, breast cancer ranks highest both in terms of overall incidence and mortality. Trends suggest that incidence and mortality rates have increased by more than 1% over the past few decades. Presently, there is a shift in incidence with a higher proportional prevalence observed in younger age groups.

For every two women detected with breast cancer in India, one dies of it.



RISK FACTORS



Physical inactivity



Obesity



Alcohol consumption and/or smoking



Exposure to radiation



Hormone therapy (such as the use of oral contraceptive pills or hormone replacement therapy taken for more than five years)



Family history (having a first degree relative with a history of breast cancer)



Reproductive history (having the first pregnancy after the age of 30, not breastfeeding, and never having had a full-term pregnancy)



Genetic mutations (having mutations in certain genes such as BRCA1 or BRCA2)

“The shift in distribution of breast cancer to younger women in India is a very disturbing trend.”

— Mary Beth Terry



PREVENTION

Breast cancer risk can be lowered by:

- Regular exercise
- Limiting alcohol consumption
- Avoiding smoking / exposure to tobacco smoke
- Breastfeeding after giving birth
- Maintaining a healthy weight particularly after menopause

“Community health care workers need to be taught about clinical breast exams, and women need to be instructed on what may or may not be normal.”

— Roshni Rao



DETECTION: SCREENING

Routine screening for breast cancer helps in early stage identification, which leads to early treatment and better survival outcomes. With the shift in breast cancer incidence towards younger women, early identification of women at risk is important. In addition, women who show early symptoms such as a lump or a hard mass in the breast, breast or nipple pain, nipple discharge or skin dimpling should visit their healthcare provider as soon as possible for further testing.

Screening for breast cancer can be done using:

- Clinical breast exam
- Breast self-exam
- Mammography
- Ultrasound
- Magnetic Resonance Imaging (MRI)

Routinely, women over 40 years of age who are at a high risk (having a family history) for developing breast cancer need to consult their physician or a healthcare professional about when to start and how often to get screened.

Clinical breast exam (CBE) by a doctor should be done about every three years for women in their 20s and 30s, and every year for women who are 40 years of age and over.

“India needs to target the media for a mass education program on breast cancer awareness.”

— Sumeet Shah



In India, it is critical to use a risk-based approach for detecting breast cancer, in addition to a broad-based one. With no national screening program in place, reduction in mortality and improvement in opportunistic screening rates can be achieved by:

- Increasing awareness about breast health
- Addressing social and cultural barriers (stigma of being rejected by the community and family, potential fear of loss of the breast, the prevailing taboo of not discussing breast cancer openly, and lack of trust in the existence of effective therapy for the disease)
- Improving accessibility to clinical diagnosis and prompt treatment services

SCREENING DURING COVID-19



Covid-19 has negatively influenced breast cancer screening and treatment, with a significant decline seen in both rates.



Gradually, as the pandemic progressed, there was an uptake in the number of patients seeking care but screening rates remained low.



For communicating about diagnosis and treatment planning during the pandemic, utilization of telehealth, video conferencing and novel technologies have proved to be efficient solutions for healthcare providers and patients.



Multidisciplinary management and providing emergency care to acute cases of breast cancer has been crucial.



For individuals undergoing opportunistic screening, ensuring a safe environment, physical distancing and adequate time intervals between patients have been key to minimize the spread of infection.

PREVENTING GASTROINTESTINAL CANCER



Webinar Date: November 30, 2020

PANELISTS



Gulam Manji
Director of Medical
Oncology and
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Pancreas Center,
Herbert Irving
Comprehensive Cancer
Center



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Vikram Chaudhari
Consultant GI-HPB
surgeon, Surgical
Oncology, Tata
Memorial Center,
Mumbai

EPIDEMIOLOGY

Gastrointestinal (GI) cancer includes all cancers in the digestive tract organs. Globally, stomach and pancreatic cancer are the fifth and twelfth most common causes of cancer in terms of incidence, respectively. In terms of mortality, gastric cancer ranks fourth while pancreatic cancer is the seventh most common cancer.

Although India is in the low-incidence zone for both these cancers, recent epidemiological trends have shown a rise in their incidence levels. High incidence of gastric cancer is found in Chennai and in Northeast India. Among men in India, pancreatic and gastric cancers are the twelfth and fourth most common cancers.



Pancreatic cancer is the eleventh leading cause of cancer in women in India



Gastric cancer is the seventh leading cause of cancer in women in India

RISK FACTORS FOR PANCREATIC CANCER:

- Old age (>50 years)
- Smoking
- ABO blood group
- Diabetes
- Obesity
- Genetics (patients with genetic disorders like Peutz-Jeghers syndrome, p16, BRCA2 mutation and hereditary non-polyposis colorectal mutation carriers) and family history
- Gender (more common in men)
- Conditions such as allergies, periodontal disease, H.pylori infection, chronic pancreatitis and history of past medical procedures (gastrectomy, cholecystectomy)
- High alcohol consumption

RISK FACTORS FOR GASTRIC CANCER:

- Old age (>40 years)
- Type A blood group
- Lack of potable drinking water
- Helicobacter pylori infection
- Pernicious Anemia
- Tobacco smoking
- Obesity
- Regional Distribution (cardia subtype in the Western Hemisphere and non-cardia subtype in East Asia)
- Occupational exposures (workers in coal mines, rubber factories)
- Food habits (high intake of smoked foods, salted fish and meat, pickled vegetables, low Vitamin A and C consumption, high salt intake)
- Genetics (5-10% of cases have some familial component while 3-5% of cases have some inherited cancer syndromes. e.g. Lynch syndrome, hereditary breast / ovarian cancer)

“We need to identify more clearly what the risk factors are, develop more effective screening practices and look for biomarkers that may identify individuals earlier so that they can be better treated.”

— Jeanine Genking



PREVENTION

Gastric and pancreatic cancer risk can be lowered by:

- Maintaining a healthy weight
- Quitting smoking
- Eating a well-balanced diet rich in fruits and vegetables
- Improved food preservation practices
- Limiting alcohol consumption
- Increased physical activity

“Time is of the essence in the diagnosis of pancreatic and gastric cancer.

”

— Gulam Manji



SCREENING/DETECTION

The symptoms of gastric and pancreatic cancer are non-specific and many patients present themselves at a very advanced stage of the disease, making early detection paramount to improving survival rates. Individuals who show symptoms like blood in stools, loss of appetite, nausea and vomiting, jaundice, and back pain should consult a healthcare professional for testing.

Although routine screening for these cancers is not a general practice in India, it is highly recommended in high-risk individuals (those with a family history). Selective population-based regional screening programs can be implemented in those districts and states where incidence is high.

SCREENING FOR PANCREATIC CANCER

Pancreatic cancer can be screened using endoscopic ultrasonography (EUS) and/or MRI / Magnetic Resonance Cholangiopancreatography. Utilizing biennial endoscopy in adults in addition to existing upper GI series (barium meal followed by radiography) has proved to be helpful in identifying gastric and pancreatic cancers early and in reducing mortality.

Despite having poor survival rates, improved outcomes in pancreatic cancer cases can be achieved by:

- Obtaining a consensus on screening initiation and how often it should be done
- Better identification of high-risk groups (using risk assessment tools, improved understanding of etiologic factors and use of novel markers)
- Initiating screening in high-risk individuals 10 years earlier than the age of the youngest relative detected with pancreatic cancer

“A nation-wide screening program leads to early detection of gastric cancer and directly results in higher survival in patients.”

— Vikram Chaudhari



SCREENING FOR GASTRIC CANCER

Screening is recommended in individuals aged 40 years or more and should be conducted in conjunction with H. pylori eradication therapy. Use of endoscopic screening can be considered in countries/regions with intermediate risk, based on local settings and availability of endoscopic resources. Screening can be performed using:

Invasive methods:

- Conventional endoscopy
- Magnification endoscopy
- Chromoendoscopy
- Narrow band imaging
- Confocal endomicroscopy

Non-invasive methods:

- Radiographic examination
- H. pylori serology
- Assessing serum levels of pepsinogen and gastrin

In high-risk individuals from high incidence populations, mass screening by endoscopy is recommended. In individuals with pre-malignant lesions, long-term endoscopic and histologic surveillance is the recommended strategy.

In high-risk individuals from low incidence populations, a staged screening approach (initial screening based on epidemiologic factors, H. pylori infection and genetic risks followed by endoscopic surveillance) is the screening strategy of choice.

In India, five-year survival rates from gastric cancer are around 20-30% and improvement in these rates can be achieved by increasing awareness among the public.

SCREENING DURING COVID-19



Elective GI endoscopy work has been significantly reduced as endoscopic procedures are aerosol-generating and considered high risk for possible Covid transmission.

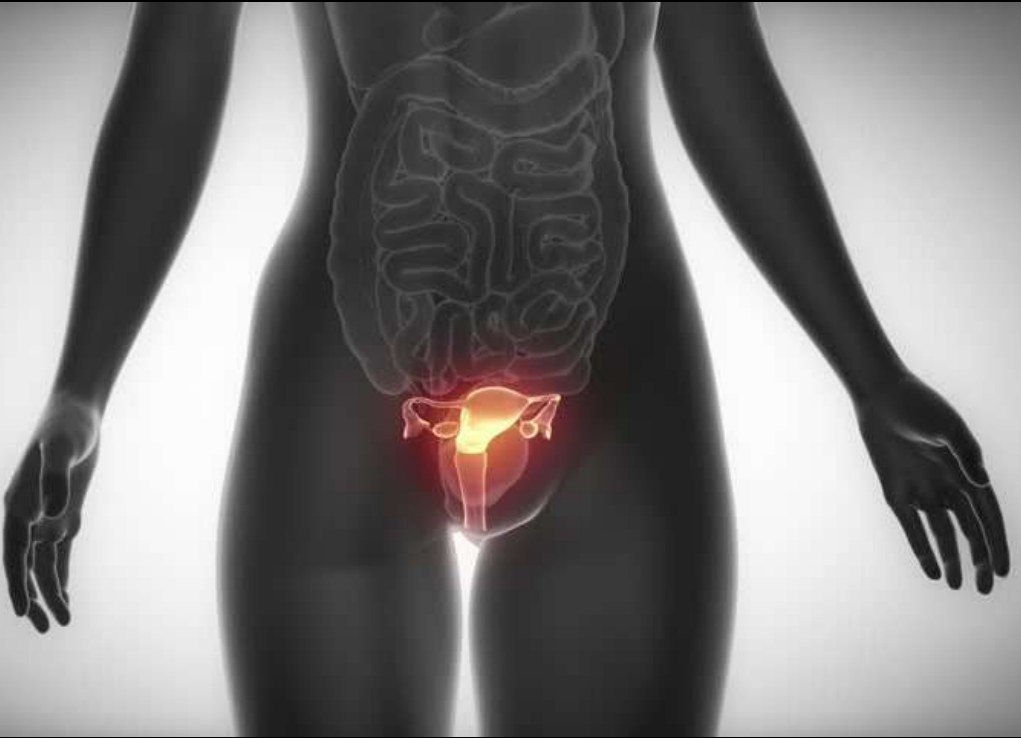


With difficulty in accessing screening and treatment resources, patient outcomes have been negatively affected and may eventually result in marked increase in the numbers of avoidable cancer deaths.



With delays caused by the pandemic, it is recommended that generating awareness about gastric and pancreatic cancer screening through social media, telemedicine, and more frequent use of non-invasive screening modalities become a priority.

PREVENTING CERVICAL CANCER



Webinar Date: March 23, 2021

PANELISTS



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Columbia University



Sharmila Pimple
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Memorial Hospital,
Mumbai

EPIDEMIOLOGY

Cervical cancer ranks fourth among cancers for women globally. Incidence and mortality rates in Southern and Eastern Africa, and in Southeast Asia, are the highest in the world.

In India, where cervical cancer continues to be the second most prevalent cancer among women, a woman dies of cervical cancer every minute.

RISK FACTORS



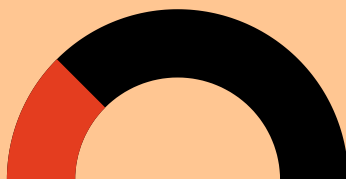
Smoking



The main cause of cervical cancer is infection by the Human Papilloma Virus (HPV), and two specific HPV types (16 and 18) are responsible for 70% of cervical cancers.



Sexual history (becoming sexually active at a young age, having multiple sexual partners, and having a partner who is considered high-risk)



India contributes nearly one-fourth of the cervical cancer burden in the world in terms of incidence and mortality

PREVENTION

Primary prevention strategies for cervical cancer include:

● HPV vaccination for girls

● Male circumcision

● Health information and warnings about tobacco use

● Sexual education tailored to age and culture of the population

For those who test positive for high-risk HPV infection, appropriate triage and follow-up is essential, including ablative or excisional treatment procedures for those with pre-cancerous lesions. Early-stage cervical cancer is largely asymptomatic; symptoms of advanced cancer include vaginal bleeding between periods, after intercourse or menopause, pelvic pain, or odorous, bloody vaginal discharge. For women found to have cancer, linkages to care and treatment are needed, including surgery, radiotherapy, chemotherapy, and palliative care.

WHO 2020-2030 CERVICAL CANCER ELIMINATION STRATEGY

The goal of this strategy is to have <4 cases of cervical cancer per 100,000-woman years, have 90% of girls fully vaccinated with the HPV vaccine by age 15, 70% of women screened with suitable screening tests between ages 35 and 45 and have 90% of these cases managed appropriately, and achieve an overall 30% reduction in mortality of cervical cancer by 2030.

SCREENING/DETECTION

Cervical cancer can be cured if detected early. For women over 30, secondary prevention through screening is necessary. Screening tools and tests include:

- HPV detection with molecular techniques
- Cytology-based screening tests (conventional techniques such as pap smear)
- Visual techniques (VIA-visual inspection by acetic acid)

Screening tests need to be implemented in a sustainable way to ensure that those who screen positive have follow-up and appropriate treatment.

Single visit approaches to screening are optimal to reduce attrition and most efficiently maximize the benefits of screening. This can be accomplished with the strategy referred to as 'Screen-and-Treat'. In this approach, HPV testing is used as the primary screening modality using rapid molecular tests that can be done at the point of care. Women who require treatment for precancerous lesions can be treated on the same day and those requiring further services can be immediately referred to higher centers of treatment.

“Linking screening to treatment is important to ensure women come back for diagnostic confirmation and avail treatment for cervical cancer.”

— Sharmila Pimple

”



Depending upon the availability of resources, screening for cervical cancer is based on resource-stratified clinical practice guidelines. According to these guidelines, HPV testing is recommended in all resource settings and VIA (visual inspection by acetic acid) is only recommended if HPV testing is not available. A country's investment in detection depends on:

- High coverage
- Adequate infrastructure
- Appropriate management of women who screen positive
- High prevalence of disease
- Feasibility of single visit approaches
- High quality of screening tests
- Proper monitoring and supervision
- Effective linkage to diagnosis and treatment
- Affordability of tests
- Availability of on-site diagnosis

“Widespread, well-organized screening has not been universally implemented and this explains the unacceptable and persistent inequalities across the world.”

— Louise Kuhn



In India, where there is no nationwide program for cervical cancer screening, government-approved operational guidelines employ VIA for population-based screening. Here, there are several challenges in the implementation of screening programs, including:

- Lack of cancer literacy among women
- Health system barriers (quality of services and attitude of health personnel, poor communication and networking with local stakeholders and communities, women's lack of access and navigation within the healthcare system, lack of confidence in the healthcare delivery system)
- Sociocultural barriers (stigma of cancer outcomes and confidentiality in the communication of screening results, fear of discrimination of women whose mothers have been diagnosed with cancer, need for family counselling for linking screening to treatment)

SCREENING DURING COVID-19



The Covid-19 pandemic has impacted childhood vaccination in the United States. While other types of vaccination rates have rebounded, HPV vaccinations are yet to see a return to normal numbers.

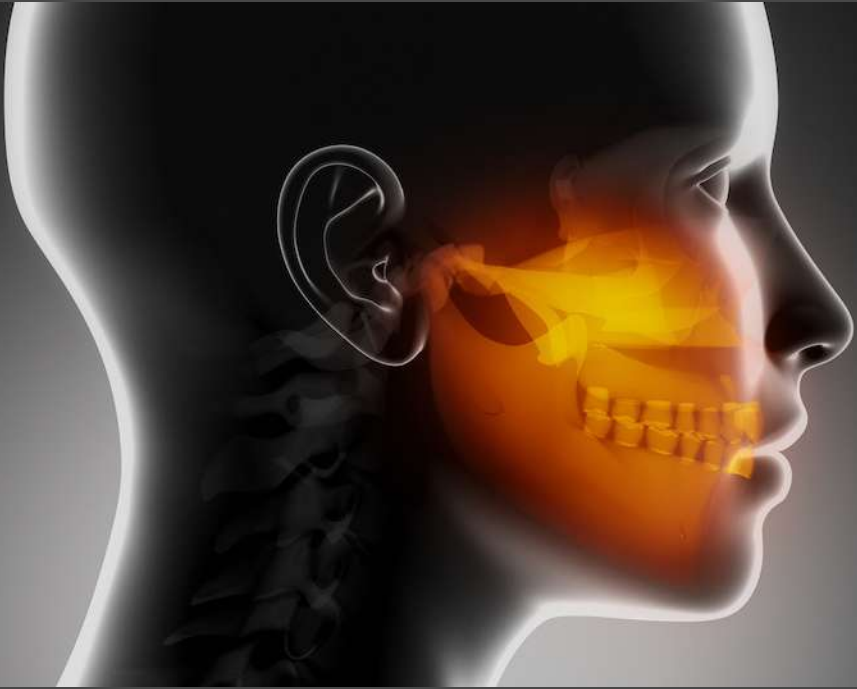


In resource-constrained environments, preventive services are considered 'not essential' in many regions during this period. This, together with the fear of contracting the Sars-CoV-2 virus at hospitals, has resulted in a decrease in screening rates for cervical cancer in countries like the United States of America.



In a post-pandemic world, the gap between vaccinations, diagnostic tests, and access to treatment needs to be bridged. Additional measures include avoiding misinformation, combining vaccinations with other preventive interventions, focusing on maximizing human resources, applying public health principles to ensure efficiency and effectiveness of programs and interventions, and assuring health equity to reduce the cervical cancer burden.

PREVENTING ORAL CANCER



Webinar Date: April 28, 2021

PANELISTS



Salvatore Caruana
Director, Head and Neck Surgery, New York-Presbyterian/ Columbia University Irving Medical Center



Monika Arora
Director and Professor, Health Promotion Division, Public Health Foundation of India



Arjun Singh
Fellow, Head and Neck Surgery, Tata Memorial Hospital, Mumbai

EPIDEMIOLOGY

Oral cancer is a highly preventable and easily detectable cancer, yet it continues to pose a serious public health concern. It is the predominant type of head and neck cancer and is the sixth most common type of cancer globally.

In India, where close to 70% of cases reported are in the advanced stages, oral cancer is the most common cancer among men and is among the top five most prevalent cancers among women. Five Indian states – Uttar Pradesh, Bihar, Maharashtra, Madhya Pradesh and West Bengal – contribute to more than 50% of India's oral cancer burden.



India contributes to almost one-third of the total oral cancer burden

RISK FACTORS



Areca nut and alcohol consumption



Genetic predisposition



Poor nutrition



Viral infections



Tobacco use (smoking, smokeless). There are about 266.8 million tobacco users in India and tobacco contributes to 80-90% of oral cancer cases in the country



Local factors (poor oral hygiene, sharp tooth, ill-fitting dentures)



Pre-malignant lesions such as oral submucous fibrosis, lichen planus, erythroplakia and leukoplakia are lesions that have the potential of transforming into oral cancer

“The use of both tobacco and alcohol in any of its forms has a multiplicative effect on the risk of getting oral cancer.”

”

— Salvatore Caruana



PREVENTION

Oral cancer can be prevented by the following:

- Maintaining good oral hygiene
- Regular visits to the dentist for routine check-ups
- Maintaining a good and healthy diet
- Limiting alcohol intake
- Quitting tobacco use (smoking and smokeless forms)

NATIONAL POLICIES FOR ORAL HEALTH

India has a number of plans and programs that are relevant to the prevention of oral cancer. The comprehensive National Tobacco Control Programme (NTCP) trains health and social workers, school teachers, and enforcement officers to ensure implementation of tobacco laws and set up and strengthen cessation facilities, including the provision of pharmacological treatment facilities at the district level. The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke was launched with a focus on health promotion, awareness-generation, emphasis on healthy lifestyles including avoidance of tobacco, and screening and early detection of cancer. The National Oral Health Program was also launched with the goal of preventing oral diseases and improving access to preventive services and dental care. Another important policy for prohibiting advertisement and regulating tobacco trade is the Cigarettes and Other Tobacco Products ACT. India is also a signatory to the WHO Framework Convention on Tobacco Control.

“Mass media campaigns on oral cancer have been found to be very effective and have high recall value among people.”

”

— Monika Arora



As a step towards preventing oral cancer and reducing the use of tobacco, thirty-four Indian states and Union Territories have banned the production, sale, and distribution of smokeless tobacco. Pictorial health warnings featuring images of oral cancer have been used in India on packs of cigarettes and smokeless tobacco to increase knowledge and awareness about the ill-effects of tobacco consumption. India has a National Quitline service and m-health services available in different languages to counsel and help people interested in quitting tobacco.

SCREENING/DETECTION

Screening is important for early detection of oral cancer. Most oral cancers are preceded by pre-malignant lesions. Opportunistic screening done by oral visual examination can lead to early referrals and treatment.

A number of adjunctive aids and new techniques are being utilized for screening, including special dyes, chemiluminescence, autofluorescence, liquid biopsy, exfoliative cytology, and the use of teledentistry (m-health) as a virtual screening modality.

Individuals who display early symptoms like difficulty in chewing or swallowing food, presence of a non-healing ulcer or development of white or red patches in the mouth, hoarseness of voice, and unexplained pain/tenderness in any area of the face, mouth, or neck should consult their doctor or dentist for further testing.

“In India, the use of telepathology and teleradiology services proved to be effective methods of screening during the pandemic.”

— Arjun Singh



As India invests in oral cancer screening, factors requiring reform include:

- higher literacy rates
- access to healthcare resources
- proper infrastructure
- increased use of advanced diagnostic tools
- spreading awareness about the disease and its causative factors

SCREENING DURING COVID-19



Tobacco smokers are at a greater risk of having adverse health outcomes if they contract Covid-19.



In the first wave of the Covid pandemic, the Indian Council of Medical Research appealed to the public to avoid the use of tobacco and refrain from spitting in public places to reduce the spread of Covid-19.



Use of virtual tumor boards using telehealth platforms have proven to be effective in hospitals that do not have specialized services to manage oral cancer.

PREVENTING LIVER CANCER



Webinar Date: June 22, 2021

PANELISTS



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Rajesh Dikshit
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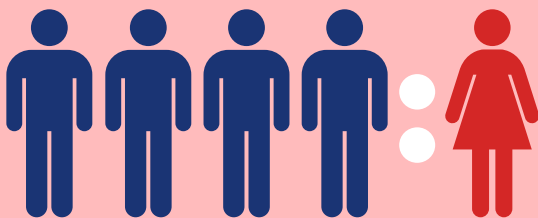
Elizabeth Zheng
Transplant
Hepatologist, Center for
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Transplantation, New
York-Presbyterian/
Columbia University
Irving Medical Center

EPIDEMIOLOGY

Liver cancer or hepatocellular carcinoma (HCC) is one of the most common cancers in the world. Globally, it is the fifth most common cancer and the second most common cause of cancer-related deaths among men. Among women, it remains one of the top ten causes of cancer-related mortality worldwide.

In India, liver cancer ranks twelfth in frequency among cancers, with incidence rates varying across different states. The overall incidence rates range from three to four cases per 100,000 of the population. Trends show that liver cancer cases have increased by 32% in the last two decades in the country.

The male: female incidence ratio in India is 4:1



RISK FACTORS

Some of the most common established risk factors for liver cancer are:



Old age (>45years)



Aflatoxin exposure



Liver cirrhosis



Exposure to polycyclic aromatic hydrocarbons (PAHs)



Heavy alcohol intake



Non-alcoholic fatty liver disease



History of infection with hepatitis viruses



Dietary factors

In India, the major risk factors for liver cancer are hepatitis B and C infections and high alcohol consumption rates. In terms of geographical distribution, the burden of liver cancer is highest in Northeast India.

“

25% of the global population has non-alcoholic fatty liver disease, which is a major problem when it comes to rising rates of liver cancer.

”

— Regina Santella



PREVENTION

Liver cancer can be prevented by taking the following measures:

- Limiting exposure to chronic hepatitis infections
- Treatment for the hepatitis C virus
- Limiting tobacco and alcohol use
- Maintaining a healthy body weight
- Limiting exposure to aflatoxins
- Limiting exposure to PAHs
- Cooking fish to eliminate the possibility of liver infections by liver fluke

“Creating awareness about hepatitis infections and ensuring hepatitis vaccinations at birth in children are key to reducing the hepatitis and liver cancer burden in India.”

— Rajesh Dixit



NATIONAL VIRAL HEPATITIS CONTROL PROGRAM

India has a National Viral Hepatitis Control Program, developed with the aim of reducing mortality and morbidity associated with different hepatitis infections. Yet some of the major challenges in implementing this program are behavior change, incomplete immunization against hepatitis B (the hepatitis B vaccination schedule for infants in India is at 6, 10, and 14 weeks), safety of blood and blood products during transfusion, and access to safe drinking water, sanitation, and hygienic practices. Other challenges include lack of awareness about hepatitis infections, suspicion and mistrust of vaccines, misinformation, and a lack of institutionalized deliveries in rural areas to ensure completion of the required vaccine doses.

SCREENING/DETECTION

Screening for liver cancer is important as populations that are at a high risk for HCC can be identified early and appropriate treatment can be initiated.

HCC risk can be assessed with the help of tumor markers and/or ultrasound as a screening modality. The level of alpha-fetoproteins (AFP) is the most widely used and the most validated biomarker for HCC detection—the higher the AFP, the more likely the diagnosis of HCC. Certain limitations in the sensitivity of AFPs, however, have led to the use of ultrasound as an additional method for detection.

Routine screening is recommended for patients with a history of cirrhosis of any etiology. In the United States, screening is also recommended for ● any adult with a history of chronic Hepatitis B who is an Asian or an African-American man over the age of 40 ● an Asian woman over the age of 50 ● a person with a first-degree family member having a history of HCC, and ● an individual who has been co-infected with the Hepatitis D virus.

“The benefit of screening is that it leads to early lesion and tumor detection, and therefore improved survival for patients of liver cancer.”

— Elizabeth Zheng



While most people do not show signs/symptoms in the early stages of primary liver cancer, those who do show symptoms of loss of appetite, weight loss, general weakness, and jaundice should consult a healthcare provider for further diagnosis.

SCREENING DURING COVID-19



Deferring hepatitis screening by two or three months in times of limited radiologic capacity such as the pandemic, is likely safe.

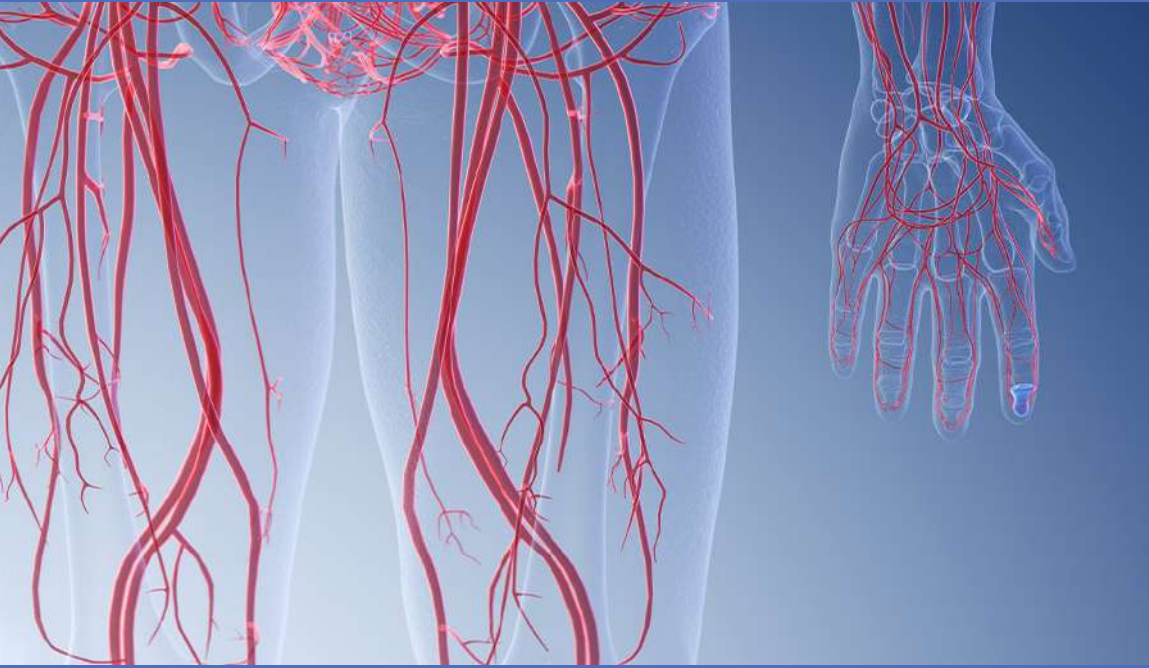


The use of blood biomarkers is a feasible alternative if ultrasound-based surveillance cannot be performed for extended periods of time .



Individuals who are at the highest risk of developing HCC should be prioritized for screening.

PREVENTING BLOOD CANCER



Webinar Date: September 15, 2021

PANELISTS



Rajshekhar Chakraborty
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Justine Kahn
Assistant Professor of Pediatrics, Herbert Irving Comprehensive Cancer Center, Columbia University



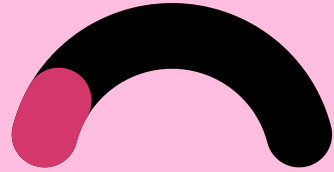
Venkatraman Radhakrishnan
Professor of Medical Oncology, Cancer Institute (W.I.A.), Chennai

EPIDEMIOLOGY

Blood Cancer is an umbrella term for a large group of cancers including leukemia, lymphoma, and myeloma. Multiple myeloma is a common hematologic malignancy in older adults. Globally, there has been a 126% rise in multiple myeloma cases in the past two decades. In India, approximately 9000 cases of multiple myeloma are found every year. Some types of blood cancers are more frequent in children and are commonly classified under childhood cancer.

Almost 200,000 children are diagnosed with blood cancer every year. In India, regional differences have been noted in the incidence of Acute Lymphoblastic Leukemia (ALL), a subtype of leukemia. T-cell ALL has been commonly found in children in South India.

India contributes almost 28% (~760000 cases) to the total blood cancer burden among children.



RISK FACTORS FOR MULTIPLE MYELOMA

- Age (average age at initial diagnosis is 60)
- Individuals who have a first degree relative with a history of multiple myeloma
- Men are at a slightly higher risk
- Individuals with monoclonal gammopathy of undetermined significance (MGUS)

RISK FACTORS FOR CHILDHOOD CANCER AND CANCER IN ADOLESCENTS/ YOUNG ADULTS (AYAs)

- So far, there are no established risk factors for childhood blood cancer and blood cancer in AYAs (15-39 years of age), but researchers continue to study this
- AYAs face unique challenges such as differences in host factors, tumor biology, and survival outcomes
- Less than 5% of childhood cancers are inherited from parents

“ In India, survival rates from pediatric ALL are not as good as in the West but considerable progress has been made.

”

— Justine Kahn



PREVENTION

With no clear risk factors or unavoidable risk factors associated with aging as in the case of multiple myeloma, there is no known way to prevent blood cancers from developing.

For AYA patients, empowering and educating them, engaging them in decision-making, explaining their choices, empathizing, and entrusting them with their health are factors key to improved outcomes.

NATIONAL POLICIES FOR PEDIATRIC ONCOLOGY

The development of the national insurance scheme—Ayushman Bharat, the establishment of the National Cancer Grid and the Indian Pediatric Oncology group, and the initiation of different fellowship programs have been some of the recent significant achievements in the field of pediatric oncology.

“Key to superior outcomes in multiple myeloma patients is early referral to tertiary care facilities with expertise in management of blood cancers.

”

— Rajshekhar Chakraborty



SCREENING/DETECTION

Currently, there are no evidence-based population guidelines for screening for multiple myeloma and childhood cancer.

At the individual level, multiple myeloma can be detected with routine blood and kidney function tests (checks for low haemoglobin, elevated serum creatinine, elevated serum calcium, and elevated ESR).

Screening for multiple myeloma can be done using:

- Serum Protein Electrophoresis (SPEP)
- Free Light Chains (FLC)

In India, differences in disease biology (late presentation) pose a challenge for detecting multiple myeloma. Challenges in the detection of pediatric blood cancers mainly result from lack of diagnosis, misdiagnosis or delayed diagnosis, and constraints in accessing care in the country.

“ It is estimated that only 50% of pediatric cancer cases in India get diagnosed, so the actual numbers being reported are just the tip of the iceberg. ”

— Venkatraman Radhakrishnan



In AYAs, delays in diagnosis of ALL can be attributed to:

- Lack of knowledge of individual risk or family history
- Lack of health insurance
- Fear and denial
- Poor/no information of cancer symptoms
- No annual physical exams
- Discomfort or intimidation while talking to doctors

ALL can be detected by:

- Assessing the history of the patient and clinical presentation (checking for pallor, bruising, skin changes, cranial nerve palsies, testicular masses)
- Laboratory tests and direct imaging when necessary (with the help of complete blood count, peripheral blood smear, and different chemistries to understand the breakdown of cells)
- Bone marrow aspirate and biopsy (using cell morphology, flow cytometry, cytogenetics, and molecular studies)
- Lumbar puncture

SCREENING DURING COVID-19



The Covid-19 pandemic has altered care across all fields of medicine at both systemic and individual levels.



For AYAs resistant to clinical visits, shifts in clinical care patterns such as modifications of drug timing, dosing, and moving from intravenous drug administration to oral chemotherapy have been beneficial.



Use of telehealth and telemedicine have proven to be effective and efficient means of providing care and follow-up.



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