Cancer Aid & Research Foundation (CARF) has been conducting Doctor sessions from the past many years. These sessions are a right opportunity for the patients to understand about the various types of cancer. Many renowned doctors attend this session and share their vast knowledge with patients and their relatives.

These sessions create an impact in the lives of patients and people who cannot afford the treatments. Due to the prevailing situation of Covid-19 affecting the lives of everyone, travelling and physical doctor sessions are not possible in these days. Considering the safety protocols, CARF has started the live doctor sessions which was aired on the CARF face book page and over the past year 30 live sessions were conducted. Various renowned cancer oncologist surgeons and doctors took the live session and it was a huge success. Patients, general people, volunteers and supporters of CARF also actively participated in the live session. CARF is thankful to all for making the live sessions a grand success.

**Presenter : Prof. Dr. Rehan A. Kazi**

Hon. Chairman Advisory, MS, DNB, FRCS, FACS, FRCS, PhD. Hon. Chair in Head, Neck Cancer Research - Manipal University, India Hon. Associate Professor: University of Warwick, England .Head & Neck Cancer Surgeon

**Topic** - Introduction to Cancer & Covid-19

**Session Date** - 08 - 06 - 2020

**Link** - https://www.facebook.com/1706900496233919/videos/2642885192663952

**Presenter : Dr. Nagraj G.Huilgol**

Chief Radiation Oncologist, Nanavati Superspeciality Hospital, Mumbai

**Visiting Hospital** - Nanavati Hospital, Mumbai

**Topic** - Radiation Therapy in the times of Covid Pandemic

**Session Date** - 10 - 06 - 2020

**Link** - https://www.facebook.com/1706900496233919/videos/905189259905317

**Presenter : Dr. Siddaiahgari Sirisharani**

MBBS, MD (Paediatrics), DNB (Paediatrics), MRCPCCH, UK

**Visiting Hospital** - Rainbow Hospital, Hyderabad

**Topic** - Cancer Children facing practical problem in covid time

**Session Date** - 17 - 06 - 2020

**Link** - https://www.facebook.com/1706900496233919/videos/1605001662997104
Presenter: Dr. Tushar Balmukund Idhate  
**M.D.(Pediatrics), F.I.A.P.(Pediatric Hematology-Oncology)**  
**Visiting Hospital:** MGM Hospital, Aurangabad  
**Topic:** When and how to suspect blood cancer in children  
**Session Date:** 24 - 06 - 2020  
**Link:** [https://www.facebook.com/1706900496233919/videos/881589019004005](https://www.facebook.com/1706900496233919/videos/881589019004005)

Presenter: Dr. Mukul Roy  
**M.B.B.S, D.N.B (Radiation Oncology), M.B.A**  
**Visiting Hospital:** Jaslok Hospital, Mumbai  
**Topic:** Myths and Facts around Covid-19  
**Session Date:** 01 - 07 - 2020  
**Link:** [https://www.facebook.com/1706900496233919/videos/715058749257315](https://www.facebook.com/1706900496233919/videos/715058749257315)

Presenter: Dr. Prasad Kasbekar  
**M.S.M.Ch, F.E.B.S. (SURGICAL ONCOLOGY)**  
**Visiting Hospital:** ST. Elizabeth, Bhatia Hospital, Mumbai  
**Topic:** Breast Cancer  
**Session Date:** 08 - 07 - 2020  
**Link:** [https://www.facebook.com/1706900496233919/videos/598176957741859](https://www.facebook.com/1706900496233919/videos/598176957741859)

Presenter: Dr. Vibha Bafna  
**MBBS, MD, DCH, FELLOW IN PEDIATRIC HEMAT - ONCOLOGY**  
**Visiting Hospital:** Bharati Hospital, Pune  
**Topic:** What should my child eat-Principle of nutrition in children with cancer  
**Session Date:** 15 - 07 - 2020  
**Link:** [https://www.facebook.com/1706900496233919/videos/291757688928903](https://www.facebook.com/1706900496233919/videos/291757688928903)

Presenter: Dr. Tushar Patil  
**MBBS, MD, DM (Oncology)**  
**Visiting Hospital:** Sahyadri Super Speciality Hospital, Pune  
**Topic:** Lung Cancer  
**Session Date:** 22 - 07 - 2020  
**Link:** [https://www.facebook.com/1706900496233919/videos/367745577522828](https://www.facebook.com/1706900496233919/videos/367745577522828)
Presenter: **Dr. Swapnil Mane**  
MBBS, MD, DNB, FCPS, DGO, Gynec Oncosurgeon  
Visiting Hospital: Saidham Hospital, Shirdi  
Topic: Ovarian Cancer  
Session Date: 29 - 07 - 2020  
Link: [https://www.facebook.com/1706900496233919/videos/373992913595183](https://www.facebook.com/1706900496233919/videos/373992913595183)

Presenter: **Dr. Sangeeta Mudaliar**  
MRCPH, MBBS, DNB (Pediatric Hemato oncology)  
Visiting Hospital: Wadia Hospital, Mumbai  
Topic: Care During and after completing cancer treatment in children  
Session Date: 05 - 08 - 2020  
Link: [https://www.facebook.com/1706900496233919/videos/653119718916354](https://www.facebook.com/1706900496233919/videos/653119718916354)

Presenter: **Dr. Anam Syed**  
MBBS, MS, MS OB&G  
Visiting Hospital: Sion Hospital, Mumbai  
Topic: Cervical Cancer  
Session Date: 12 - 08 - 2020  
Link: [https://www.facebook.com/1706900496233919/videos/2618722708230996](https://www.facebook.com/1706900496233919/videos/2618722708230996)

Presenter: **Dr. Deepak Chhabra**  
MS (BOM), DNB, MRCS/EDIN, UK, FICS, Surgical Oncologist  
Visiting Hospital: Lilavati Hospital, Mumbai  
Topic: Cancer Prevention: Identify your enemies  
Session Date: 19 - 08 - 2020  
Link: [https://www.facebook.com/1706900496233919/videos/775180889959425](https://www.facebook.com/1706900496233919/videos/775180889959425)

Presenter: **Dr. Nisha Iyer**  
MBBS, MD, MS, MFHO, Fellow in Pediatric Hemato Oncology  
Visiting Hospital: Tata Hospital, Asian Cancer Institute, Mumbai  
Topic: Paediatric Oncology Awareness  
Session Date: 26 - 08 - 2020  
Link: [https://www.facebook.com/1706900496233919/videos/654795895416872](https://www.facebook.com/1706900496233919/videos/654795895416872)
Presenter: Dr. Divya Bansal  
MBBS, DNB Pediatric, DM (Clinical Hematology)  
Visiting Hospital: Manipal Hospital, Delhi  
Topic: Blood Cancer treatment: Present & Future  
Session Date: 02 - 09 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/789668605137734

Presenter: Dr. Prashant Hiwarkar  
MBBS, MD, FRCPath (Clinical Haematology), PhD (Transplant immunology, UCL)  
Visiting Hospital: Bai Jerbai Wadia hospital, Mumbai  
Topic: Bone marrow transplant for blood cancer  
Session Date: 16 - 09 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/378932423297497

Presenter: Dr. Viraj Nevrekar  
MBBS, MD; Medical Oncology  
Visiting Hospital: HCG Cancer Centre, Mumbai  
Topic: Symptoms and diagnosis of Leukemia  
Session Date: 09 - 09 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/1474182062765170

Presenter: Dr. Khurshid Mistry  
Ph.D. PGDCR (Mumbai University) Trustee N K Dhabhar Cancer Foundation Head OnCare  
Visiting Hospital: Tata Memorial Hospital, Mumbai  
Topic: Palliative Care for Cancer Patients  
Session Date: 23 - 09 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/367976764226403

Presenter: Dr. Pushpak Chirmade  
MD, DM, ECMO, Consulting Medical Oncologist & Hemato-Oncologist  
Visiting Hospital: Jupiter Hospital, Mumbai  
Topic: September - Gynaecological Cancer Awarness Month  
Session Date: 30 - 09 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/382643176072240
Presenter : Dr. Pritam S. Kataria
MBBS, MD(Genral Medicine), DM(Medical Oncology & Hemant- Oncology)
Visiting Hospital - Sir H.N. Reliance Foundation Hospital and Research Centre, Mumbai
Topic - Prostate Cancer Awareness
Session Date - 07 - 10 - 2020
Link - https://www.facebook.com/1706900496233919/videos/252099389576345

Presenter : Dr. Sonal Dhande
MBBS, DNB (Medical Oncology), Consultant Medical Oncology
Visiting Hospital - Consultant Medical Oncology at
HOPE-MOC Cancer Centre, Nashik
Topic - Uterus Cancer
Session Date - 14 - 10 - 2020
Link - https://www.facebook.com/1706900496233919/videos/848482489291161

Presenter : Dr. Sampada Desai
MBBS, MD, fellowship (Gynae -Oncology)
Visiting Hospital - Consultant HN Reliance Hospital, Mumbai
Topic - Breast Cancer Awareness
Session Date - 21 - 10 - 2020
Link - https://www.facebook.com/1706900496233919/videos/682582739340511

Presenter : Dr. Ankit Shah
MDS, Oral & Maxillofacial Surgery Fellow, Head & Neck Surgical Oncology
Visiting Hospital - Tata Memorial Hospital, Mumbai
Topic - Oral Cancer
Session Date - 28 - 10 - 2020 & 25 - 11 - 2020
Link - https://www.facebook.com/1706900496233919/videos/293908275236580

Presenter : Dr. Amit Chakraborty
MBBS, MS General Surgery, Fellowship in Mumbai Invasive surgery
Visiting Hospital - Sion Hospital, Mumbai
Topic - Head & Neck Cancer Awareness
Session Date - 04 - 11 - 2020
Link - https://www.facebook.com/1706900496233919/videos/1658672627648583
Presenter: Dr. Drunal Khobragade  
MBBS, MS (Ortho.), MCh (Orthop.), Fellowship in Orthopaedic Oncology  
Visiting Hospital: Tata Memorial Hospital, Mumbai  
Topic: Pancreatic Cancer  
Session Date: 11 - 11 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/376124063834336

Presenter: Dr. Supriya Bambarkar  
MBBS, MS (Ortho.), Fellowship in Thoracic Oncosurgery, Fellow Head and Neck Oncosurgery  
Visiting Hospital: HCG Cancer Center, Mumbai  
Topic: Lung Cancer  
Session Date: 18 - 11 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/3353144688144651

Presenter: Dr. Mishil Parikh  
MBBS, MS (Ortho.), MCh (Ortho.), Fellowship in Orthopaedic Oncology  
Visiting Hospital: Tata Memorial Hospital, Mumbai  
Topic: Osteosarcoma  
Session Date: 02 - 12 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/201011278310971

Presenter: Dr. Prateek Hegde  
MBB.S, M.S (Orthopaedics), DNB (Orthopaedics), MRCS (Edinburgh), Fellowship in Orthopaedic Oncology  
Visiting Hospital: Tata Memorial Hospital, Mumbai  
Topic: Ewings Sarcoma  
Session Date: 09 - 11 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/881862109222640

Presenter: Dr. Shweta Bansal  
DNB (PEDIATRICS), CLINICAL RESEARCH FELLOWSHIP (TMH MUMBAI), JOP FELLOWSHIP, ST. JUDE USA, BONE MARROW TRANSPLANT FELLOWSHIP (NUH, SINGAPORE)  
Visiting Hospital: Sir HN Reliance Hospital, Mumbai  
Topic: Hope and Survival: Childhood Cancer  
Session Date: 16 - 12 - 2020  
Link: https://www.facebook.com/1706900496233919/videos/1542239242625893
"Every story we hear does have some good and bad effect on each one's life, same goes with my 12 year old daughter Ayushka. In 2017, she was quite sick with high fever and severe stomach pain. Doctors suggested us to do detailed tests to understand the root cause of the problem. After conducting the tests, it was said that my child is suffering from Acute Lymphoblastic Leukaemia. As the word cancer was told to us we were completely shattered as house of cards. The treatment cost and the fact that our 12 year old daughter was suffering from cancer completely shook me and my family. We lost all our hope and CARF came to our lives as a ray of hope. With CARF support, doctor's started her treatment and she started getting better day by day showing tremendous sign of progress. She is doing completely fine now and only her maintenance phase is going on. She is studying in 7th standard and wishes to pursue her studies further. We are thankful to CARF for supporting us in the time of need and also motivating my daughter to lead a life of happiness."

-Pradeep Chavan, Father of Ayushka
ORAL SEX AND HUMAN PAPILLOMA VIRUS-RELATED, HEAD AND NECK SQUAMOUS CELL CANCER:

Introduction

Head and neck cancers are malignant tumours arising in the upper aerodigestive tract. Worldwide, there are more than 550,000 cases/year with around 300,000 deaths annually. The median age at diagnosis is 50–59 years and the male:female ratio ranges from 2:1 to 4:1. Head and neck carcinomas are a biologically heterogeneous group of cancers, the majority (90%) being squamous cell carcinomas, and originate from the mucosa of the oral cavity, nasopharynx, oropharynx, hypopharynx and larynx. They have very high morbidity and mortality rates. Tobacco, areca nut and alcohol consumption are strongly associated with head and neck squamous cell carcinoma (HNSCC). Various tobacco control measures have been adopted to decrease the incidence of head and neck cancers. These include social awareness programmes, effective legislation, restriction on sales to minors, increased taxes and product disclosure laws. After the implementation of such measures, several countries have seen a downward trend in smoking prevalence and a decline in head and neck cancer incidence correlating with a decline in tobacco use. However, Canada, Denmark, the Netherlands, Norway, Sweden, the USA and the UK have witnessed an increasing incidence of oropharyngeal and oral cavity cancers despite declines in smoking rates since the 1980s. Several studies investigating other possible aetiological agents identified human papilloma virus (HPV) as a separate entity causing HNSCC. HPV infection is commonly transmitted by sexual practices and is a proven cause of cervical cancer. Various studies have demonstrated the role of HPV infection and oro-genital contact in causing HNSCC. Due to social stigma, health professionals hesitate to inquire about and document sexual practices and are also reluctant to counsel patients regarding oro-genital contact and HPV transmission. In fact, there is little awareness among health professionals regarding HPV infection and its role in HNSCC. Patients also lack information concerning the risks associated with HPV infection. The aim of this review of the literature is to determine whether there is strong evidence to correlate oral sex with HNSCC, thus suggesting patients should be counselled regarding sexual behaviour.

Association between HPV and HNSCC Treatment Plan

An association between HPV and HNSCC was initially suspected during the 1960s when there were reports of conversion of recalcitrant laryngeal papillomas to malignancy after radiation therapy. The role of HPV in the pathogenesis of HNSCC was confirmed in 1983 when histopathological features and immunohistochemical properties consistent with cervical HPV infection were identified in oral squamous cell carcinoma biopsy specimens. An association between HPV type 16 and cervical, uterine and anogenital cancer was acknowledged by the International Agency for Research against Cancer (IARC) in 1995. The role of HPV16 was recognised as a risk factor for oropharyngeal squamous cell carcinoma in 2007. Approximately 60%–80% of patients with oropharyngeal carcinomas are HPV positive, with other head and neck cancer subsites showing lower HPV seroprevalence. A prospective study conducted on patients with oropharyngeal carcinomas at MD Anderson Cancer Center in the USA reported that 88.5% of oropharyngeal carcinomas were positive for HPV. The incidence of oropharyngeal carcinomas has been rising approximately 5% per year for a decade. The population attributable fraction (PAF) of HPV in HNSCC is estimated to be 26% globally and HPV prevalence in North America, Japan and Australia is around 50%. In the USA, the incidence of HPV-negative oropharyngeal carcinoma declined by 50% between 1988 and 2004, but the incidence of HPV-positive oropharyngeal carcinoma increased by 225%. These studies suggest an increased incidence of HPV-related HNSCC in Western countries. A similar increase in the incidence of HPV-positive anal cancer has also been seen. A large study examining the association between sexual behaviours and head and neck cancers has shown that having a history of oral sex, having multiple partners or being homosexual are strongly associated with tonsillar and oropharyngeal cancers. Western countries have a higher percentage of people engaged in oral sex (with a high of 78% in Boston, MA) and higher percentage of people with multiple sexual partners (with a high of 30 partners in Argentina). According to the 2002 National Survey of Family Growth, 38.8% of males and 43.6% of females aged 15–19 years in the USA have performed oral sex. A similar survey conducted in the UK in 2004 reported that 22% of virgins aged 16–21 years and 70% of non-virgins had a history of oral sex. Oral sex is a common sexual act practised by both heterosexuals and homosexuals.

Mechanism of carcinogenesis

HPV is a double-stranded DNA virus with a special affinity for the basal layer of squamous epithelial cells. Over 200 HPV geno-types which infect the skin and mucosal surfaces have been identified. Low-risk HPVs, such as HPV6 and 11, induce
benign hyper-proliferation of the epithelium resulting, for instance, in papillomas or warts. High-risk oncogenic types (HPV16, 18, 31, 33 and 35) are responsible for almost all invasive cervical cancers and other anogenital tract cancers. The prototypic HPV16 and 18 are capable of malignant transformation of epithelial cells derived from both the anogenital and upper aerodigestive tracts. The malignant potential of high-risk HPVs is attributed to the function of two oncoproteins, namely E6 and E7, which disrupt cell cycle control through their effects on p53 and Rb tumour suppressor genes, respectively.

Clinical implications

HPV-positive HNSCC are seen more commonly in younger age groups, non-smokers and non-drinkers, and tend to have poor differentiation and frequent basaloid histology, and rarely metas-tasise to distant organs or have second primaries.

HPV infections of the head and neck

Benign wart-like HPV infections are common and systemic immunity plays an important role in clearing the virus from the body. Anogenital areas harbour HPV which is transmitted to the head and neck area mainly through oro-genital contact. The odds of oral HPV infection increases significantly (OR 5.20) with an higher number of oro-genital sex partners. Women with cervical wart-like lesions and practising oral sex were positive for oral HPV infection. Oral sexual partners were associated with an increased odds of harbouring oral HPV16 (p-trend=0.03; OR 3.88). A study conducted on couples demonstrated that persistent oral HPV in one partner increased the risk of the other partner having a similar oral infec-tion by 10-fold. Another study reported a case where an oral condyloma developed after cunnilingus with an HPV-infected partner.

HPV-related HNSCC and sexual behaviours

A pooled analysis by the International Head and Neck Cancer Epidemiology (INHANCE) consortium demonstrated an increased risk of HNSCC with certain sexual behaviours such as increased number of sexual partners, practising oral sex and early age of sexual debut. This was a very large study with 5642 cases and 6069 controls but it had the major drawback that no information about HPV status was available. The studies, which were pooled, were also heterogeneous as they were from different populations and cultures. It is reported that partners of women with cervical cancer or a history of cervical cancer had an increased risk of developing oral cancer. Another study suggested that husbands of women with cervical cancer have twice the risk of developing tonsillar cancer. A case was reported where the husband and wife both had synchronous HPV-related cancers caused by the same subgroup infection.

Types of infection:

Oral sex

Oro-genital sex has been found to be independently associ-ated with HPV-positive HNSCC as compared with HPV-neg-ative cancers. The prevalence of oro-genital sex was 4.2-fold higher (95% CI 1.5 to 11.7) in patients with HPV-pos-itive HNSCC than in HPV-negative patients. A large cohort study demonstrated that patients with HPV-positive oropharyngeal carcinoma had a higher mean number of oral sex part-ners (12.8 for HPV positive and six for HPV negative) than patients with HPV-negative oropharyngeal carcinomas (mean, p=0.049 and median, p=0.003). Patients with squamous cell carcinoma of the oropharynx were significantly more likely to have engaged in oral sex than patients with squamous cell carcinoma of non-oropharyngeal head and neck sites. A systematic review and meta-analysis of sexual behaviours and head and neck cancers suggested an increased risk of head and neck cancers with a higher number of oral sex partners Another meta-analysis suggested that oral sex is a risk marker rather than an independent risk factor for oral cancer. A multi-centric study reported that patients engaged in oral sex were more likely to have HPV DNA in malignant tumours of the oral cavity and oropharynx. A case–control study demonstrated an association between oral sex and oropharyngeal cancer in HPV16-positive patients.

Anal sex/oro-anal contact

HPV infection can spread via oro-anal contact. A study examining differences in the sexual habits of patients with oropharyngeal and other HNSCC did not find any statis-tically significant difference in the risk of developing orpha-ryngeal cancer with increasing number of oro-anal partners. In contrast, most other studies have shown that anal/oro-anal sex increases the risk of having HPV-positive oropharyngeal cancer with ORs of 1.6–19.5.

Multiple partners

While reviewing the literature on oral sex, we found that a higher number of sexual partners was an important factor in the majority of HPV-positive HNSCC (table 1). Among the reports was a multi-centric case–control study where with 1670 patients with oral and oropharyngeal cancers and 1732 controls. The authors showed that having more than one sexual partner conferred odds of 2.4 for developing HPV-pos-itive HNSCC. A meta-analysis suggested an increased risk of head and neck cancer with an increase in the number of sexual partners (OR 1.29). As the number of sexual partners increases, there is an increased likelihood of patients having HPV16-positive HNSCC. One study found ORs of 1, 2.5 and 6.4 for having 0–1, 2–10 and >11 partners, respectively. Another study showed similar results with ORs of 1, 3.8 and 8.6 for having 0, 1–5 and >6 oral sex partners, respec-tively. Patients with than 15 sex partners were reported to have an OR of 2.5 for having HPV16 DNA in
their tumours. HPV-positive oropharyngeal cancer patients were more likely (OR 9) to have a history of multiple vaginal and oral sexual partners.

**Differences in sexual behaviours by age and gender**

**Age**
Younger age groups (<55 years of age) were more likely to have HPV infection compared with older age groups (>55 years of age). A sexual behaviour study reported that young and middle-aged men and women have over 45% more oral sex than older people.

**Gender**
The prevalence of oral HPV varies significantly with gender. In the last 20–40 years, the incidence of HPV-positive HNSCC has risen among males in many Western countries. HPV sero-prevalence is significantly higher among women compared with men, but HPV transmission from women to men appears to be higher than from men to women. A population-based study in the USA reported a higher prevalence of oral HPV infection in men compared with women (10.1% (95% CI 8.3 to 12.3) vs. 3.6% (95% CI 2.6 to 5.0), respectively, p<0.001). Another study showed that men had a higher prevalence of oral HPV infection and suggested that cunnilingus may confer a higher risk of acquiring oral HPV infection than fellatio. Studies have shown an increased incidence of HPV-related HNSCC in men as compared with women, but the reasons are unclear. Several hypotheses have been put forward including: (i) males have more sexual partners and so more opportunity for HPV exposure; (ii) transmission of infection from the mucosal surface of the female genitalia is more efficient compared with the keratinised epithelium of a penis which is more resistant to HPV infection than cervical epithelium; and (iii) women have some level of systemic immunity against cervical infection which protects them against oral HPV infection.

**HPV vaccines to Prevent Cancer**
Vaccines have been developed against oncogenic HPV (HPV16 and 18). The newer generations of HPV16 and 18 L1 VLP (virus-like particles) vaccines are potentially promising for preventing the majority of HPV-positive cancers. These vaccines help to prevent pre-cancerous cervical lesions, cervical cancers and HPV-positive non-cervical carcinomas. Three types of vaccines are available: bi-valent, quadri-valent and 9-valent. The Advisory Committee on Immunization Practices has recommended using 9-valent vaccines. Recent immunogenicity studies have demonstrated that the vaccines elicit a humoral immune response in males as well as females. This is an important finding as HPV-associated head and neck cancers are commonly seen in men. Vaccination should start before puberty, ideally between 9 and 12 years of age for both males and females, with catch-up vaccinations up to 26 years of age. The current recommendation by the Centers for Disease Control and Prevention is for two doses, 6–12 months apart. The vaccines are given before the onset of sexual activity in order to provide immunity against infection by HPV strains. They are also useful in individuals already infected with HPV as they may provide immunity against infection by other HPV strains.

Current scenario Oral sex is likely to increase in popularity as other sexual practices are avoided for fear of acquiring HIV infection. A study of younger age groups reported that 36%–49% of adolescents aged 15–19 were engaging in oral sex and 14.2% of seventh grade students were engaged in sexual intercourse. These findings indicate that a significant percentage of adolescents are at risk of the potentially dangerous consequences of early sexual initiation. Sexual liberation is more commonly seen in Western countries and less so on the Indian subcontinent due to sexual convention. HPV prevalence in oropharyngeal cancer was 22.8% in a north Indian population. Higher chances of acquiring HPV-positive HNSCC were seen in those who were light smokers (63.4%), had a higher income (48%) and had higher levels of education (45.3%).

**Conclusion**
Sexual behaviours like having unprotected oral sex, practicing oro-anal sex or having multiple sexual partners play an important role in HPV transmission and infection that may result in HPV-associated HNSCC, which is an emerging epidemic. Patients are more likely to be younger, well-educated males from higher socio-economic backgrounds. There is a need for proper documentation and for counselling of patients regarding sexual behaviours to prevent the spread of HPV infection and associated cancers.

**ATTENTION READERS!**
To enable us to communicate with you effectively, we request you to kindly send us your email ID, date of birth and change of address if any, to erpmanager@cancerarfoundation.org, carf@cancerarfoundation.org
SAVE YOUR VOICE: CANCER OF THE LARYNX (VOICE BOX)

Introduction

The Larynx (Voice Box) is an important organ of the Human body, responsible for multiple functions. It comprises of Various cartilages such as the Thyroid Cartilage (Adams Apple), Cricoid Cartilage and paired Arytenoid Cartilages. The Vocal cords are soft tissue folds corresponding with the Thyroid Cartilage that vibrate and lead to the creation of voice.

Cancers of the Larynx are common these days. According to World Health Organisation's Global Cancer Registry – Globocan 2020, Roughly 1,84,615 cases of Cancer of the Larynx were seen annually. Nearly 50% of the reported number cases died due to the disease. The main factors which are deemed responsible for these cancers are adverse habits such as Tobacco Chewing, Cigarette and bidi smoking and Marijuana (Cannabis – Drugs) smoking. The addition of Alcohol to these habits acts synergistically to speed up Carcinogenesis (Cancer Formation). The other causative factors include Human Papiloma Virus infection, voice abuse etc.

Cancers of the Larynx may broadly be divided into three subsites
1. Glottic Cancers (At the level of the Vocal Cords)
2. Supraglottic Cancers (Above the Vocal Cords)
3. Subglottic Cancers (Below the Vocal Cords)

The Glottic Cancers are the most commonly seen amongst these three subsites, followed by the Supraglottic Cancers and the Subglottic Cancers. As the incidence of these cancers vary, so do their presentation and subsequent treatment modalities as well.

What to Look out for?

Early Glottic Cancers may present with subtle changes in the Voice in the Form of Hoarseness and Voice Fatigue during Talking. Advanced Glottic cancers will present with breathing difficulty and Extra-laryngeal spread (Spread into surrounding structures).

Supraglottic Cancers present with Symptoms of Pain during swallowing and a Peculiar Hot potato voice. Cancers of the subglottis generally present with Symptoms in terms of Breathing difficulty.

To summarize, watch out for the following
1. Any change in voice
2. Dysphagia (Difficulty in Swallowing)
3. Odynophagia (Pain During Swallowing)
4. Coughing on swallowing
5. Long lasting cough / Blood tinged cough
6. Any Neck Swelling
7. Breathing Difficulty (Advanced stage)

Treatment for Laryngeal Cancers

Early Laryngeal Cancers are Amenable to Laryngeal preservation strategeries. Laryngeal preservation strategies comprise of both Surgical and Non Surgical treatment.

Surgical treatment for laryngeal preservation may be done with the help of and endoscope or may be done via the open surgical approach.

Endoscopic surgeries include Trans Oral Microsurgery, Trans Oral Robotic Surgery, Microdebrider excision and Coblation excision. Open Surgical strategies include various partial laryngectomies such as Supracricoid Laryngectomy, Supraglottic Laryngectomy and Vertical Partial Laryngectomy.

Non Surgical Modalities include Radical Radiotherapy. Advanced Laryngeal cancers need to be assessed for Operability and if Operable Surgery in the form of Laryngectomy (Removal of Voice Box) followed by Radiotherapy as an Adjuvant therapy can be considered.

FREE CANCER INFORMATION LEAFLETS & POSTERS

If you wish to avail of these leaflets and posters, please call us at the numbers given below and we will be glad to send them to you

Contact : 2300 5000 / 7000, 2301 6000 / 2305 3602/3607, 2306 4441 / 4442
IISC DEVELOPS BANDAGE THAT KILLS SKIN CANCER CELLS

Development and Genetics (MRDG) at the Indian Institute of Science (IISc) has developed a non-invasive bandage made with magnetic nanofibres to treat skin cancer by administering heat to the tumour cells.

Although this novel treatment has been shown to be effective against skin cancer in lab experiments, it is still at a nascent stage of development as a clinical therapy. IISc said that further studies are required to test the efficacy of this method on a larger scale in rabbits, dogs, and monkeys before employing it for pre-clinical and clinical applications.

Skin cancer, the most common kind of cancer, is caused mainly due to excessive exposure to ultraviolet rays from Sun.

Pointing out that the common chemotherapies — and other treatments for skin cancer — surgery, radiation therapy, and conventional therapies have limitations, IISc said in a statement that a promising alternative that has emerged to treat skin cancer is hyperthermia, which involves applying heat to the affected tissues.

"In recent years, researchers have been working on developing ways of delivering heat to the tumour tissues so that cancer cells are targeted selectively and effectively. One such technology is called magnetic hyperthermia, in which magnetic nanoparticles are used to heat the tumours by using an external alternating magnetic field (AMF)," IISc said.

Having found that it was difficult to achieve uniform heating of the affected tissues using such magnetic nanoparticles because of uncontrolled aggregation and given that they can accumulate in the human body and induce toxicity, BSSE and MRDG researchers developed the bandage with a unique blend of magnetic nanoparticles fabricated using a method called electrospinning. "It comprises nanoparticles made from an oxide of iron, Fe3O4, and a biodegradable polymer called polycaprolactone (PCL) pasted on a surgical tape. The magnetic material generates heat when it is subjected to a high-frequency oscillating magnetic field," the statement read. In order to investigate whether the heat generated and dissipated by the magnetic bandage can treat skin cancer, researchers did two experiments: one was in vitro (on human cancer cell lines) and the other was in vivo (on mice with artificially-induced skin cancer).

"The protocol used to prepare the PCL-Fe3O4 fibrous mat-based bandage took a little more than two months to optimise; however, the in vitro and in vivo tests that involved testing of the magnetic thermal therapy took quite some time to optimise," Kaushik Suneet, a former project associate at BSSE and the first author of the study, said.

In both experiments, the heat generated by applying AMF to the nanofibrous magnetic bandage killed cancer cells successfully. Moreover, in the in vivo experiment, the healthy tissue remained intact with no signs of burns, inflammation, or thickening.

ANTIDEPRESSANT HELPS TO INHIBIT GROWTH OF CANCER CELLS: STUDY

This is shown by a study on cell cultures and lab animals performed by various research labs of KU Leuven. Their findings were published in Molecular Cancer Therapeutics, a journal of the American Association for Cancer Research.

Cancer cells use different biological mechanisms to stimulate their growth. In certain types of breast cancer, leukaemia, skin cancer, brain tumours and lung cancer, among others, the malignant cells produce large amounts of serine and glycine, two amino acids. This product stimulates the growth of cancer cells to such an extent that they become addicted to serine and glycine."This mechanism is an interesting target because cancer cells are so dependent on it", said Professor Kim De
Keersmaecker, head of the Laboratory for Disease Mechanisms in Cancer (LDMC). "Healthy cells use this mechanism to a lesser extent and also take up serine and glycine from food. This is not sufficient for cancer cells, however, meaning they start producing more. If we can halt this production, we will be able to fight cancer without affecting healthy cells," added Keersmaecker.

In their search of a substance that influences the synthesis of serine and glycine, the researchers utilised a database of existing medicines. In the first phase, Professor Bruno Cammue's research group at the Centre for Microbial and Plant Genetics (CMPG) tested 1,600 substances on yeast cells. "Because there are also yeasts, or moulds, which depend on the same mechanism", explains research coordinator Dr Karin Thevissen. "Certain yeasts produce these amino acids to protect themselves against antifungals. In addition, you can easily grow yeast cells, allowing you to test many different substances."

The screening showed that antidepressant sertraline was the most effective substance. "Other studies had already indicated that sertraline has a certain anti-cancer activity, but there was no explanation for this yet," mention researchers Shauni Geeraerts (LDMC and CMPG) and Kim Kampen (LDMC). "In this study, we've been able to demonstrate that sertraline inhibits the production of serine and glycine, causing decreased growth of cancer cells. We also found that this substance is most effective in combination with other therapeutic agents. In studies with mice, we saw that sertraline in combination with another therapy strongly inhibits the growth of breast cancer cells."

Considerable potential

"Now that we’ve been able to identify this mechanism for breast cancer, we can start examining other types of cancer that are also addicted to serine and glycine synthesis", says Professor De Keersmaecker. "This is for example the case in T-cell leukaemia, but also in certain types of brain, lung and skin cancer. The more tumours we can identify that are sensitive to sertraline, the better the prospects are for helping patients in the future." "These are, of course, results of experimental research, not clinical studies, but we can be optimistic about the potential. The safety of using sertraline in humans has already been well described, which is a great advantage. That's why we are also looking for industrial partners to develop this further."

Times of India - November 21, 2020
A smile is something that we provide to the kids suffering from cancer by organising various activities for them. This year because of Covid everything was difficult and no major activities were conducted. This year CARF came as Santa in the lives of cancer patients and gave the gift of help and ensured they received timely help. On the auspicious occasion of Christmas and New Year, cheques were distributed to many cancer patients, so that they get enough support for their treatment.

CARF celebrates its foundation day every year on 20th June. Various functions and activities were conducted in these past years to commemorate this important day. Due to Covid-19 disrupting the lives of everyone and thus taking care of the safety protocols, it was not possible to conduct any major functions. CARF organised a cheque distribution program for the cancer patients at their office in Vikhroli. As the month of April and May were completely under lockdown, many patients could not receive timely help. So on the foundation day CARF ensured to help as many cancer patients with the cheque distribution for treatment.

International Women's Day is a time to reflect on progress made, to call for change and to celebrate acts of courage and determination by ordinary women, who have played an eminent role in the history of their countries and communities. CARF has been appreciating women who make an impact with their successful lives by selecting a Women of CARF every year. This year Mrs. Pratiksha Wagh was selected as the Women of CARF for her great work in managing her professional and personal life. She has motivated many young working women to lead a successful life. CARF proudly appreciates such working women.
MISSION SAHAY

“To survive in peace and harmony, united and strong, we must have one people, one nation, one flag. To support this ideology CARF celebrated the Republic day with the motive to appreciate our freedom fighters who tried really hard to make our country republic. CARFIANS promoted this ideology through its social media channels and all CARFIANS wore Tri colour dress and participated in the event.

The list of Mission Sahay is as below.
1) 27th Jan, 2020 @ Bhandup Village Road East
2) 29th Jan, 2020 @ Bhandup Village Road East
3) 08th Feb, 2020 @ Nahur Station East

26TH JANUARY HAPPY REPUBLIC DAY

Nutrition plays an important role in the lives of cancer patients and even the general public. A team of members from Masina hospital conducted a Nutrition program to make people aware about the importance of Nutrition on 30th Jan, 2020. The team led by Ms. Anam Golandaz conducted various informative sessions on the type of diet to be followed to maintain a healthy lifestyle. Cancer patients who are most vulnerable with their low immunity should maintain a healthy nutrition to maintain a healthy life. All these hints and tips were explained in detail during the programme.

YOGA DAY

Recognizing its universal appeal, on 11 December 2014, the United Nations proclaimed 21 June as International Yoga Day. International Yoga Day aims to raise awareness worldwide of the many benefits of practicing yoga. The theme for 2020 is "Yoga at Home and Yoga with Family". Due to the social distancing measures implicated to fight the pandemic Covid-19, yoga centres and other communal spaces have been temporarily closed, which has turned to online yoga sessions. CARF organised a Yoga Session by Mrs. Savita Nathani, CEO. All our staff has participated in this activity and ensured their yoga practice to be followed in future too.
Conducting doctor's session is one of the main missions of CARF as it gives a right opportunity for patients to consult renowned cancer doctors and gain knowledge about cancer treatment. This year CARF organised doctor talk on 14th Feb by Dr. Krishna Vora on Head and Neck Cancer awareness and prevention. Many patients attended the session and doctor explained the importance of timely treatment and various awareness and prevention methods. Overall, the session was really very informative and made an impact on the lives of the cancer patients.

**FELICITATION PROGRAMME BY NAIR HOSPITAL**

On 1st Feb, 2020 BYL Nair Hospital conducted a felicitation program to appreciate all the important people who plays an important part in healthcare. CARF was appreciated by the Nair hospital for the tremendous work in the field of cancer care and also helping as many patients in the past 20 years. CARF also plays an important role in supporting the Nair hospital blood bank by regularly conducting Blood donation camps and helping in the need of blood. Overall, this appreciation ensured that the good deeds CARF has been doing from the past 20 years is appreciated and motivates us to do more for the society.

**World Food Day**

World Food Day is not only about celebrating the amazing food that we have the privilege of indulging in, but it is about raising awareness for people who do not have such privilege. There are people all over the world who are suffering from hunger. Starvation is a massive problem in a number of countries, and we need to do more to raise awareness and combat this problem. CARF organised food distribution program at Sant Ghadge Maharaj Dharamshala in Parel. 413 inmates were provided with good meal.

Overall, CARF could be part of eradicating the world crisis of hunger and poverty.

**World Cancer Day 2020**

World Cancer Day aims to save millions of preventable deaths each year by raising awareness and education about cancer, and pressing governments and individuals across the world to take action against the disease. CARF has been organising various activities from past many years to be part of this awareness drive. This year CARF organised a talk at Hapag- Lloyd Company in Andheri by Dr. Rajashree Jha on Cancer Awareness and Prevention. The staff at Hapag- Lloyd participated in the lecture and had many queries which were cleared during the session. As part of the awareness, many staff members also readily contributed to the noble cause and supported CARF in its mission.
World Rose Day is annually celebrated on September 22 in dedication to the welfare of cancer patients. On this day, people around the world work towards bringing cheer and hope into the lives of all those people who have been affected by cancer. This year Cancer Aid & Research Foundation organised an online elocution competition for the kids suffering from cancer. The competition was led by Mr. Ehsaan Qureshi, renowned actor and comedian. The kids gave good insight on the topic life during covid. The kids explained about the difficulties they had to face in covid time and how they overcame it. The best performers were chosen as winners and certificate and gift was also provided to the top three.

Dear Readers,

Last year was completely out of sorts as COVID – 19 disrupted all our lives. CARF was also affected by the wrath of corona and many of our operations were stopped and delayed. Considering the social norms and lockdown regulations, there was a delay in releasing our quarterly bulletins. We have received support from many of our donors in this period and expect to receive even more support in the coming days. With a great hope we are releasing this bulletin for the year 2020.

All views expressed in the CARF News Bulletin belong to the author. The Foundation need not necessarily subscribe to them.