The term “oral cancer” encompasses a group of diseases that originate in the oral tissues. Squamous cell carcinoma of the oral mucosa and lips, however, comprises 90–95 percent of all oral malignancies.

Oral cancers are one of the most common cancers, constituting almost 50 percent of all cancers diagnosed in males with an overall incidence of 3.8-11 per 100,000 population. The disease usually presents in advanced stages.

It is surprising that a site, which is most accessible for daily self-examination, can become the site of cancer at any age. Oral cancer is a preventable disease that can be greatly controlled through public education and health education.

Incidence
In developed countries oral cancer is less common, but it is the eighth most common form of cancer overall. However, the ranking varies in great detail among countries.

“Squamous cell carcinoma comprises 90–95 percent of all oral malignancies.”

Estimates show that in 1980, more than 52,000 new cases of oral cancer were diagnosed throughout the European community. The incidence of lip cancer appears to be decreasing, but the prevalence of intraoral cancer appears to be rising in many countries, especially in younger people. This is especially true in Central and Eastern Europe. In the South American, the incidence ranges from 4.4 (Cali, Colombia) to 13.5 (India). In Australia and New Zealand, it varies from 2.6 (New Zealand) to 7.5 (in South Australia).

The prevalence of tongue cancer is consistently found to be higher (by approximately 50% in blacks compared with whites) in the same regions of the US. The prevalence of oral cancer is also generally higher in ethnic minorities in underdeveloped countries. Males are affected more frequently than females, although the ratio is equalizing and is predominantly found in middle-aged and older persons.

Principles of Diagnosis
Potentially malignant lesions and OSCC should be detected at an early stage, however, many oral tumors still are seen only when advanced. Diagnosis is often delayed by up to 6 months, even in developed countries, despite exhorations over the past 25 years.

The prevalence of intra-oral cancer appears to be rising in many countries, especially in younger people.”

“Oral cancers are one of the most common cancers.”

Warning Signs of Oral Cancer
• A sore in the mouth that does not heal (most common symptom).
• A white or red patch on the gum, tongue, or other area of the mouth.
• A sore throat or a feeling that something is caught in the throat.
• Difficulty chewing or swallowing.
• Difficulty moving the jaw or tongue.
• Nummular tongue or other area of the mouth.
• Shwelling of the jaw that causes dentures to fit poorly or become uncomfortable.
• Looseing of the teeth or pain around the teeth or jaw.
• Voice changes.
• Weight loss.

Early carcinomas may not be painful, however, later they may cause pain and difficulty with eating.

Viruses
Viruses are believed to be responsible for 50% of all cases of oral cancer. Most important viral etiological agents include human papillomaviruses (especially HPV 16) and hepatitis B virus. The role of human herpesvirus 8 in Kaposi's sarcoma is also recognized.

“Viruses are believed to be responsible for 50% of all cases of oral cancer.”
Without therapy, 60–90% of erythroplasias may turn into cancer in 5–10 years.

The head and neck cancer team is comprised of surgeons, radiation oncologist, medical oncologist, nurse, professional counselor, speech and language pathologist, nutritional therapist, social worker, professional counselor, nurses and a pharmacist. The dismal scenario can be improved by providing basic training and knowledge of speech and swallowing to the treating surgeon, laryngologist, speech therapist and medical oncologist.

Most of the tumors present in advanced stages, necessitating surgery and adjuvant RT. Both these therapies lead to massive deterioration in speech and swallowing. Lack of knowledge of various interventions—e.g., jaw/long/tongue exercises, swallowing therapy and procedures to accept these disorders as manageablerollable sequel to treatment.

Not only surgery but radiation also affects the physiology of swallowing. Loss of sensation, keratosis, post RT fibro- sis, mucositis and edema are some of the causative factors. All these can be effectively handled by proper pre-treatment counseling and post-treatment rehabilitation.

There is a need to identify speech and swallowing problems as rehabilitations as an essential part of head and neck cancer treatment. An effective rehabilitation does not mean disappearance of a tumor following surgery + chemotherapy, but restoration of altered functions as well.

Follow-up & Prevention

The oral cavity is easily accessible for inspection and examination, thus, without the aid of any sophisticated methods, oral cavity cancers are diagnosed in its early stages. The detection of this disease in its early stages is the key to achieving a significant reduction in the mortality rate. Oral cancer can be attempted at a primary as well as a secondary level in clinics, at hospitals and in large population centers.

In primary prevention, avoiding exposure to tobacco reduces the risk for cancer development. This can be implemented in the form of a community approach where the risk is reduced. This exposure can be eliminated without the individual's direct participation. The primary prevention can be addressed through an individual approach designed to motivate tobacco users to adopt non-tobacco habits to quit their habits, or discourage people, especially younger people, from acquiring such habits. The implementation of primary prevention requires not only laws and media such as films, television, radio, newspapers, posters and also increased personal communication by doctors and social workers.

Biopsy: Punch or incisional biopsy depending on the macroscopic appearance of the lesion.

Fine Needle Aspiration Cytology (FNAC): Used on neck nodes to confirm metastasis, as nodes enlarge the risk of the tumor is infected.

Other investigations: Blood, CXR, OPG, CT scan of head and neck area, triple (pan) endoscopy.

Staging: TNM staging (American Joint Committee Cancer, 1995)

Treatment

Surgery, radiotherapy (RT) and chemotherapy are the three modalities of treatment in oral cancers either for cure or palliation. This must be used singly or in combination. A multidisciplinary approach is required in advanced cases. Important factors to consider are quality of life and patient education.

In a study from South East Asia, it was noted that even after 6–8 months of diagnosis of oral cancer, 24% of patients still smoked and 56% drank alcohol. Only one third of the participants were aware that these habits were important in the development of oral cancer.

The prognosis of OSCC is site dependent. For intra-oral carcinoma, the 5-year survival rate is as low as 56% for posterior lesions presenting late, as they often do. For lip carcinoma, the 5-year survival rate is more than 70%.

Radiotherapy

Advantages of RT include the facts that (1) normal anatomical structures are preserved, (2) general anesthe- thesis is not needed, and (3) salvage surgery is available if it fails.

Disadvantages mainly include the facts that (1) adverse effects are common, (2) cure is uncommon, especially for large tumors, and (5) subsequent morbidity is more significant and hazardous and survival is reduced further.

Surgical Care

The goal of surgery is to remove the primary tumor together with a margin of clinically normal tissue to ensure complete excision of malignant tissue, along with malignant lymph node(s) (node dissec- tion), when present. Surgery thus provides a one-stage de- head of neoplastic cells from which the patient normally recovers within 10–14 days.

Although modern reconstruc- tive techniques can produce good oral aesthetics and function, neither can be to- tally ensured. Cancer centers in the world receive patients with ad- vanced disease, and many op- erations fail to remove the tu- mor completely, resulting in a poor outcome and recurrence of the tumor. A detailed his- tologic examination can then be performed for staging pur- poses to determine the extent of pro- gress and the need for adjuvant RT. Surgery also provides an- other option for the treatment of RT-resistant tumors.

Reconstruction is tailored to the patient’s ability to cope with a long operation and the risk of complications associated with it. For soft- tissue reconstruction, tissue often must be brought into the region to close the defect using split skin grafts or flaps. Local flaps (eg, nasolabial flaps) pro- vides thin, reliable flaps suitable for repairing small defects. Distant flaps required to repair large defects include free flaps, pedicle flaps and local tissues like prosthesis fitting.

Specific complications from the surgery of OSCC may include infection and rupture of the carotid artery, salivary fistulae, and thoracic duct leakage (chylorhea). Disad- vantages primarily are periop- erative morbidity and mortal- ity, but modern techniques have significantly decreased these risk factors as well as the re- lative and functional defects. When OSCC is fatal, it almost always is either because of fail- ure to control the primary tu- mor or because of nodal metastas- es. Death resulting from distant metastasis is unusual.

Chemotherapy

Several chemotherapy agents—eg, bleomycin, hydroxyurea, methotrexate, cisplatin, 5-fluo- rouracil—had active high activity in the head and neck. It is not curative when used alone, but a combination of two chemothera- peutics with RT for advanced tumors has been practiced for many years. Recently, a better under- standing of the optimal schedule for combined treatments and their benefits compared with radia- tion alone.

Chemotherapy can be delivered before radiation, achieving a high response rate of about 50% prior to meta-analysis of results from 11 studies of concurrent radiation and chemotherapy showed that combined treatment has reduced mortality rate by 22%, Reasons for the advantage of simultaneous chemotherapy over up-front chemotherapy or RT alone stems from the fact that tumor cells in RT by the simul- taneous delivery of drugs.

Current Concepts in the Management of Oral Cancers

Recently a technique (oral CIN) has been developed to minimize the risk of developing oral cancer. The brush biopsy, specimens were obtained from lesions using the device, which was then used to evaluate the most suspicious cells to be evaluated by a pathologist. The results of this technique have demonstrated the poten- tial value of computer-assisted, image analysis as an adjunct to the oral cavity examination in identifying pre-cancerous and cancerous lesions at early stages, when curative thera-pies are most effective.

“Oral Test” is a patented 5-minute mouth rinse se- quence with toluidine blue, used by dentists and physicians to detect early stage, asymp- tomatic lesions and to define margins of lesions for biopsy and surgery. It has been shown to be 100% sensitive for squa- mous cell carcinoma, the com- mon tumour responsible for about 90% of all oral cavity malignancies.

Locally advanced cancers are usually treated with a combination of surgery, post-op RT, and chemotherapy. This approach is effective even in the presence of lymph node metastases. It is not unusual that patients who received post-operative RT and chemotherapy have lymph node metastases. Patients who cannot tolerate surgery can be treated with chemotherapy alone. Patients who cannot tolerate RT or chemotherapy or RT alone and have lymph node metastases may be candidates for postsurgical chemotherapy.

Rehabilitation & Problems

More than 50% of cases in cancer hospitals are head and neck cancers and of these, two-thirds are advanced cases. Patients of oral cancer who could be treated live in misery with a number of functional restrictions. Rehabilitation of patients with head and neck cancers involves the most suspectable cells to be evaluated by a pathologist. The results of this technique have demonstrated the poten- tial value of computer-assisted, image analysis as an adjunct to the oral cavity examination in identifying pre-cancerous and cancerous lesions at early stages, when curative thera-phies are most effective.

“Oral Test” is a patented 5-minute mouth rinse se-
While the advantage of primary prevention lies in tackling the problem at a grass-roots level, it has its limitations. One of them is that it requires long sustained efforts under close monitoring. Second, the achievement of a drop in the incidence rates of oral cancer requires a significant amount of time. These limitations point to the importance of secondary prevention.

This form of prevention consists of early diagnosis of oral cancer and management of suspected precancerous lesions. The treatment of early cancers will lead to better prognosis, and the management of the precancerous lesions and conditions will prevent their progression to cancer. As the aim of secondary prevention is to improve the prognosis, this approach entails periodic re-examination of a high-risk group populations. In areas where the incidence of oral cancer is high, secondary prevention may appear as an immediate necessity. The practical difficulty in implementing this form of prevention, however, is the lack of sufficiently trained professionals and limited resources in developing countries.

Proper education and community-based early detection programmes coupled with proper treatment can be expected to be more efficient than the current treatment programmes alone.

Further Reading
1. Carnelio S, Rodrigues G; Oral cancer at a glance; The Internet Journal of Dental Science. 2004; Volume 1, Number 2

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Articles and Questionnaires will be available in the website after the publication.

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Halloween Candy: It’s Not How Much Kids Eat, It’s When

Prolonged exposure to acid in the mouth is the culprit. Halloween and its avalanche of mouth-scratching, multi-billion-dollar candy is here to stay. But, how can we eat this candy and avoid the oral health consequences?

In the last years, a popular trend is to count calories, but it’s often forgotten that some foods can be harmful to your teeth if not consumed properly.

Here are a few tips on how to enjoy Halloween candy without damaging your teeth:

1. Read the articles.
2. Take the exercises.
3. Fill in the Questionnaire and Submit the answers by Fax (+971 45086885) or Email info@cppmea.com.

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Progressive Orthodontics extends live programme to Asia

ALISO VIEJO, USA: Owing to popular demand, global orthodontics education provider Progressive Orthodontics has announced the re-opening of its Singapore location in 2009. Singapore’s two-year Orthodontics class, run by Dr Oliver Hennedige and his wife Irene Hennedige, will begin on 15 January 2009 with the closing date for discounts for early registration on 26 December 2008, company officials told Dental Tribune. The programme series will be presented by leading instructors, such as Dr Swarupp from the USA, Dr Hymer from Australia, Dr Hagens from Holland, and Dr Tossollini from Argentina. Students will also receive Progressive Orthodontics’ leading orthodontic software IPSOsoft, which will assist them in creating optimal treatment plans for patients anywhere in the world. According to the company, the software analyses patients’ details prior to diagnosis and treatment, to ensure the highest chance of successful diagnosis. Features include 150 treatment plan templates, which can be adapted to each patient, cephalometric tracing, model measuring, visual treatment objectives, and easy export for case diagnosis to instructors worldwide.

In addition to Singapore, Progressive Orthodontics offers the programme in Australia and New Zealand. Dentists who cannot attend Progressive Orthodontics’ live series in the 21 worldwide locations can still benefit from the comprehensive Orthodontics programme through online training. With this programme, dentists need only attend seminars three times, making a total of ten days’ absence from their practices, while attaining the same level of orthodontic skill from the 5,000 web pages of principles, cases, and videos, as well as hands-on instruction, according to the company.