Oral Cancer Management

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Despite media hyperbole on cancer treatment —breakthroughs, cancer treatment still falls into three basic categories: surgery, radiation, or chemotherapy.

Choosing the appropriate treatment depends on many factors, including:

The patient's medical condition as well as the modalities available to the clinician.

Surgical management

Surgery offers several advantages, including the harvest of a specimen for histopathologic analysis and the possibility of removing the cancer utilizing one treatment modality in one session.

Surgical resection with frozen-section analysis of the margins is advocated by most clinicians for most stage I and stage II cancers of the oral cavity.

Although primary radiation to T1 and T2 lesions may offer similar disease control, the side effects of radiation to the oral environment

outweigh those of surgery in most situations. In addition, given the rate of second primary cancers in the head and neck cancer patient population.

The importance of obtaining clear histologic margins has been a foundation for surgical treatment of oral cavity cancer and has been supported by several studies that have demonstrated decreased survival associated with positive margins.

Unfortunately, clear pathologic margins are not always an assurance of a good outcome.

Field cancerization

s a concept that was proposed by Slaughter and colleagues in 1953, after they reviewed resection specimens from the oral cavity and oropharynx. They found multiple foci of cancer in 11% of specimens. Areas of dysplasia also existed distant from the primary site.

An altered P53 gene (tumor suppressor protein) was identified in 52% of patients in one study, and recurrence occurred in almost half of these patients.

It is agreed by most that surgeons should strive for clear margins, given the impact of positive margins on survival. Excision with 1–1.5 cm of normal tissue beyond the obvious tumor edge is generally sufficient.

Recent reports illustrate that pathologic margins that are positive on final analysis are more likely a reflection of the aggressiveness of the particular cancer than a reflection on the surgical procedure, and histologic risk assessment is more predictive for disease free interval (DFI) and survival than margin status.

- final positive margins had a high correlation with aggressive histologic parameters such as perineural and lymphovascular invasion.
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Radiotherapy

- Reproductive cell death.
- Apoptosis.
- X-rays and gamma rays.

Fractionation refers to schedule on which radiation dose is administered.

Standard radiotherapy is administered daily, 5 days a week, with weekends off.

Accelerated fractionation refers to overall reduction in treatment time accomplished by giving two or more daily-dose fractions of close to conventional size each day.

- Hyperfractionation implies overall treatment time is conventional or slightly reduced, but an increase in total dose is achieved by giving two or more small-dose fractions on each treatment day.
- Conformal radiation treatment refers to more localized delivery of radiation to suspect site.

- Intensity-modulated radiotherapy (IMRT) is example of conformal treatment plan combined with varying radiation doses frequently used for head and neck patients to limit collateral damage to surrounding areas.

- Brachytherapy or interstitial radiotherapy is administered by placing radioactive source, typically radium (226Ra) or iridium (192Ir), directly into tumor mass using needles or loop catheters, whereby radiation is delivered continuously.

- Neoadjunct VS Adjunct

- Indications for Postoperative Radiation Therapy:
- Two or more lymph nodes containing metastatic disease in a neck dissection.

- Extracapsular extension (ECE) of cancer beyond the confines of a node.

- Poor histologic factors: extensive perineural or perivascular invasion, positive (close) soft tissue margins.

- Large (T3 or T4) primary cancers.

Chemotherapy

- Chemotherapeutic agents kill a constant fraction of cancer cells, leaving behind a certain amount of resistant cells. These resistant cells subsequently divide and the tumor mass once again increases.

Some important definitions regarding chemotherapy:

Palliative chemotherapy is given to patients with incurable disease to temporarily reduce tumor volume in the hope of improving quality of life and lengthening survival.

Adjuvant chemotherapy is given to patients who have undergone treatment of their primary cancer site with surgery and/or radiation. Goals of treatment include elimination of occult disease, especially distant metastases.

- Neoadjuvant chemotherapy (also known as induction chemotherapy) is given to patients before definitive treatment of the primary cancer site. This tactic is generally chosen in an attempt to decrease the size of the primary cancer to make definitive treatment possible.

- At this time, the clearest indication for chemotherapy in oral cancer is in metastatic and recurrent disease.
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Examples of Special Treatment Considerations by Site

- SCC of the Tongue
- SCC of the buccal mucosa
- Two-year overall survival rates for early-stage disease treated with a variety of treatment modalities range from 83% to 100%. Stage III survival rate is 41% and stage IV is 15%.





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Neck dissection

- The term "neck dissection" refers to a surgical procedure in which the fibrofatty contents of the neck are removed for the treatment of cervical lymphatic metastases.
- (1) to remove and identify occult metastasis .
- (2) to remove macroscopic disease in patients in whom metastasis are highly suspected.

Classification of neck dissection

- Radical neck dissection
- Modified radical neck dissection
- Selective neck dissection (SND)
- Extended neck dissection