Original Article

Management Protocol for Patients with Oral Cancers at A Tertiary Centre

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Abstract :

Management of oral cancers involves a multidisciplinary team approach. Surgery is ideally the primary treatment option for non-metastatic disease, and less invasive curative surgical approaches are preferred in earlystage disease to minimize surgical morbidity. For patients at high risk of recurrence, adjuvant treatment using radiation therapy or chemoradiation is often used. Systemic therapy may also be used in the neoadjuvant setting (for advanced-stage disease with the intent of mandibular preservation) or in the palliative setting (for non-salvageable locoregional recurrence and/or distant metastases). Patient involvement in treatment decision is the key for patient-driven management, particularly in clinical situation with poor prognosis, for example, early postoperative recurrence before planned adjuvant therapy.

Introduction :

Oral cavity cancer (OCC) accounts globally for an estimated 3,77,000 new cases yearly (2% of all cancers) and over 177,000 deaths (1.8% of all cancers).[1] Almost 90% of these cancers are squamous cell carcinomas.[2] There are noticeable geographic disparities in the incidence of oral cavity squamous cell carcinoma (OSCC) with approximately two thirds of the cases occurring in the developing countries.[2] Tobacco use in all its forms, betel quid, and alcohol consumption are well-established risk factors of OSCC.[2,3] In recent years, there has been an increase in the prevalence of the disease among nonsmokers, suggesting that other factors may be implicated; however, further studies are required to identify these risk factors.[4] The majority of the patients with OSCC are presented with advanced disease, with relatively poor overall survival (OS).[5] Much of the modern knowledge about oral cancer treatment comes from the 19th and 20th centuries; it can be traced back to 1841 when Theodor Kocher and his colleagues operated on 120 patients with oral cancer[6]. Around 1905–1906, cervical dissection was proposed as an extended resection for oral cancer. In 1963, conservative cervical dissection was developed to preserve the accessory nerves and other parts of the body[6,7]. In addition, the development of reconstructive surgery has also contributed greatly to the improvement of patients' quality of life (QoL), and surgery under computer simulation is becoming more common[8]. Currently, surgery is still the first choice for oral cancer treatment in both the elderly and the young[9]. Still, intensity-modulated radiation therapy, molecular targeted drugs, and immune checkpoint inhibitors are now used as adjuvant therapy for advanced cancer[10,11,2]. However, it is not only the treatment but also postoperative rehabilitation and multidisciplinary treatment that have been developed in recent years. In fact, it is not a single disability after oral cancer treatment, but rather multiple disabilities (dysphagia, dysarthria, aesthetic disorders, and psychosocial disorders)

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that can significantly impair QoL, thus requiring multidisciplinary intervention[3]. The fact that the suicide rate among oral cancer patients, or those who have undergone oral cancer treatment, is the highest among all cancers is another indication of the intensity and difficulty of oral cancer treatment[14,15]. Multidisciplinary team approaches and supportive care have been reported to shorten the time to treatment and improve outcomes.

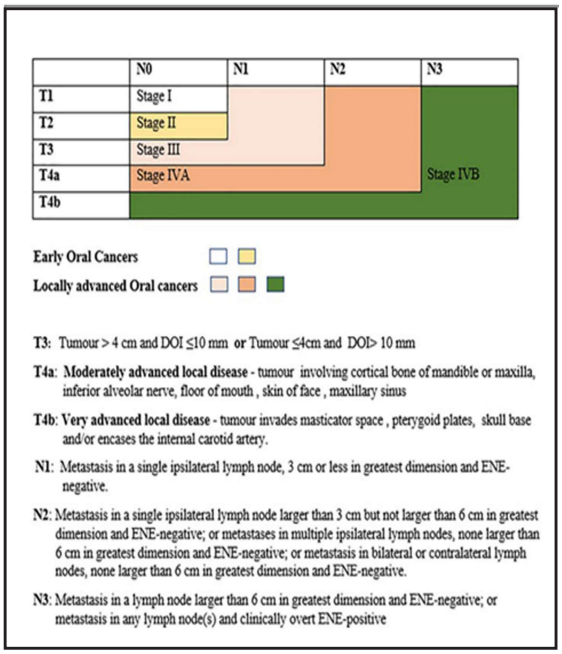
Diagnostic workflow for evaluation of clinical stages (Fig. 1) :

The routine examination of a patient with oral cavity cancer (OCC) includes history, physical examination, routine blood investigations, orthopantomogram (OPG), chest X-ray, and examination under anesthesia with endoscopy, if indicated. Contrast enhanced computed tomography (CECT) and/or magnetic resonance imaging (with contrast) of the primary and neck, and fluorodeoxyglucose-positron emission tomography (FDG-PET)/CT (in selected cases with advanced stage disease) for patients with III-IV stage disease are performed.

Multi disciplinary tumor board (MTB) :

Specialists in treatment modalities, such as maxillofacial surgeons, otorhinolaryngologists and head neck surgeons, radiation and medical oncologists, primarily comprise MTBs. Advice from diagnostic radiologists and pathologists help us with the initial staging, histopathological diagnosis, and histological examination of the surgical specimens. Furthermore, medical students' (senior residents, junior residents and medical officers) participation are encouraged because participating in the MTB is an oncology practice useful for their education.

Staging :



Treatment according to clinical stages (Fig.1):

1) Localized oral cavity cancer (T1-2, N0) :

Surgery

Early-stage disease is generally treated using a single modality. Surgery is the preferred choice of treatment for oral cancers. Elective neck dissection in early oral cancers with clinical node-negative oral squamous cell cancer has shown to be more beneficial than therapeutic neck dissection, as it results in decreased relapse rates and better survival[3-6]. In patients with T1N0 or T2N0 OCC, resection of the primary tumor site ± ipsilateral/bilateral neck dissection and resection of the primary tumor site ± sentinel lymph node biopsy (SLNB) are the two options for surgical therapy[4,5]. To assess the presence of occult metastatic disease, SLNB in early OCC is recommended[7]. Post-surgery, in case of adverse features, adjuvant CTRT/RT (EL I; Grade A) is recommended.

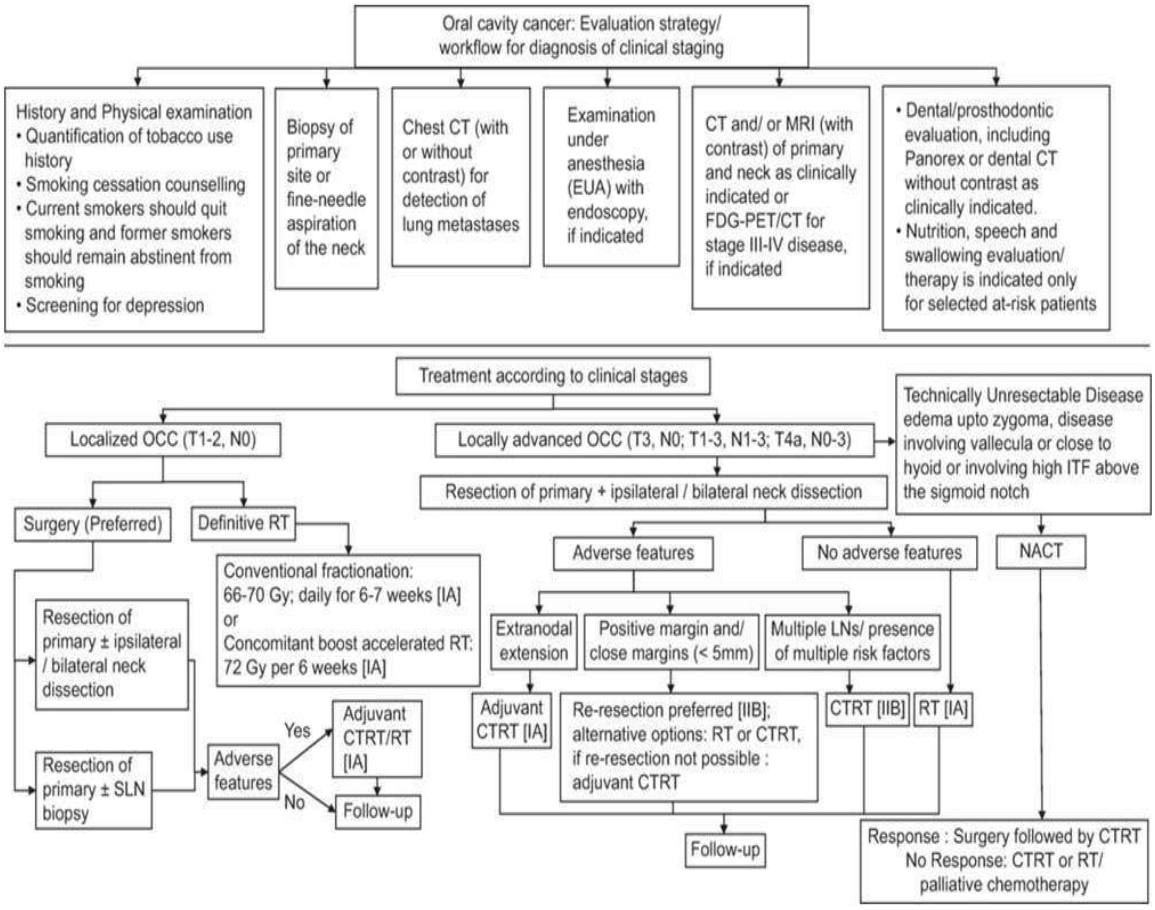


Fig. 1 showing Flowchart for the management of oral cavity cancer. CT = Computed tomography, RT = Radiation, CTRT = Chemoradiotherapy, OCC = Oral cavity cancer, SLN = Sentinel lymph node, NACT = Neoadjuvant chemotherapy, ITF = Infratemporal fossa, T = Tumor, N = Node, M = Metastasis, LNs = Lymph nodes, MRI = Magnetic resonance imaging

Source :

Indian clinical practice consensus guidelines for the management of oral cavity cancer: Update 2022

Cancer Research, Statistics, and Treatment 7(Suppl 1):S6-S11, January 2024.

2) Definitive RT (Radiation) :

Surgery is the preferred therapeutic modality as it is a single-day procedure; RT is an option for the treatment of a second primary after surgery. Selected patients, who are medically inoperable or refuse surgery, should be given definitive RT as an alternative to surgery. Brachytherapy is one of the most conformal techniques available to treat oral cavity tumors though in such cases. It gives excellent results in terms of toxicities, organ preservation and cosmesis.

3) Locally advanced oral cavity cancer (T3, N0; T1–3, N1–3; T4a, N0–3)

Surgery :

Studies have shown that patients who undergo surgery + concurrent RT and chemotherapy have better outcomes[8-10]. Patients with resectable lesions should be treated with a combined modality (surgery followed by RT/CTRT [Chemoradiotherapy]).

4) Adjuvant treatment :

The choice of adjuvant treatment should be based on the presence of adverse features post-surgery/neck dissection[11].

Recommendations :

1. Patients with extranodal extension should be treated with CTRT.
2. For patients with positive margins, re-resection followed by RT is recommended. If this is not feasible, then CTRT may be considered.
3. For patients with other risk factors (pT3/pT4, N2/N3, enlarged nodes at levels IV or V, perineural invasion, lymphatic invasion, vascular embolism), RT or CTRT is recommended.
4. For patients with higher nodal disease burden (two or more lymph nodes positive), CTRT is preferred.

Technically unresectable disease :

For technically unresectable disease like edema or soft tissue up to the zygoma, involvement of vallecula, disease close to the hyoid or involving high infratemporal fossa above the sigmoid notch—neoadjuvant chemotherapy is the treatment of choice[15]. Responders may undergo surgery followed by CTRT; for patients whose disease does not respond, CTRT or RT or palliative treatment can be offered.

Definitive RT/CTRT :

CTRT has been added as an alternative option to definitive RT in people with unresectable oral cancer (to be considered as an option when surgery is not feasible).

Organ preservation in operable oral cancers:

There have been isolated reports of chemoradiotherapy (CRT) as definitive treatment replacing surgery when perceived morbidity is major such as total loss of tongue. Although control rates seemed reasonable in these studies the results must be viewed with caution given the fact that these patients are highly select group treated at one institution with a high rate of complications, ORN (Osteoradionecrosis) occurring in as high as 21%.

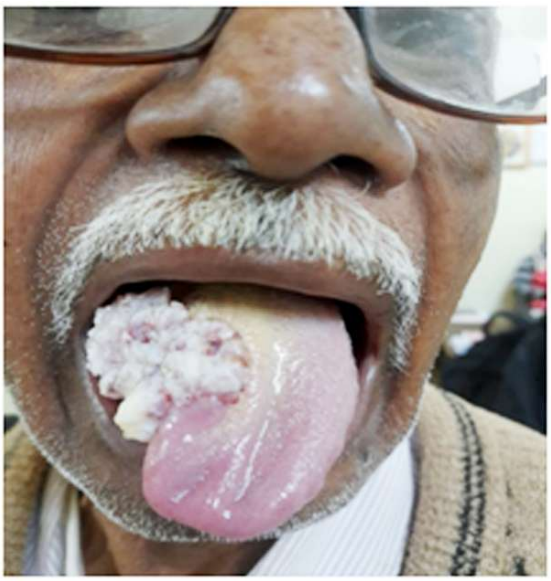
Another approach that has been tried is, neoadjuvant chemotherapy (NACT) with an attempt to downsize tumours converting radical surgical procedures into more conservative resections. Its potential benefit has been explored in a randomised setting.[18,19] Licitra et al, included 195 patients of stages T2-T4 N0-N2M0 randomised to 3 cycles of NACT followed by surgery versus upfront surgery. Although the trial did not provide the survival benefit with NACT it was interestingly noted that those in the chemotherapy arm had a lesser incidence of mandibulectomy (31% versus 52%) as well as lesser need for adjuvant radiation (33% versus 46%)[18]. Zhong et al, using NACT in a similar design to the Licitra trial, included 256 patients of stage III-IVA locally advanced resectable oral cancer. This trial was designed primarily with an aim to demonstrate survival benefit OS (Overall survival) or DFS (Disease free survival), which it failed to do. Unlike the Licitra trial,

there were no details on whether patients in the NACT arm were amenable to more conservative procedures.[19] Although conceptually attractive, this approach while providing proof of concept, stays largely investigational. A properly designed study would help establish the role of NACT aimed at organ preservation in oral cancer.

Management Protocol In Our Hospital :

Patients with oral cancer usually present to either the Maxillofacial or the Otolaryngology outpatients. After history and examination the patient is simultaneously prepared for biopsy and imaging modalities as per requirement. The case is discussed at the multi-disciplinary Joint Head & Neck Clinic[20] to confirm cTNM staging and management plan. If surgery is the recommended treatment then after its completion the case is again discussed at the Joint Clinic with the histopathology report for further management as per pTNM staging. As our Institute has a functional Medical Oncology department but lacks External Beam Radiotherapy equipment, Radiotherapy is organised under Swasthya Sathi at other hospitals by our Oncologist.

All the patients undergo regular follow up; once every 4 to 6 weeks for the first year, then every 3 months for the second and third year, every 4 months for the fourth year, every 6 months for the fifth year, and thereafter annualy.



Growth in right lateral border of tongue

Bilateral Neck dissection

Discussion :

A significant proportion of oral cancer patients present late despite ease of accessibility for examination and these cancers having a step wise tumour progression model. Thorough clinical examination supplemented with appropriate imaging, which usually is CECT, is mandatory for accurate assessment of disease extension. Surgery followed by appropriate adjuvant therapy (RT/CTRT) should be offered to operable cases for optimal outcomes. Achieving adequate mucosal, soft tissue and

bone margins in all the 3 dimensions is a must to ensure surgical adequacy. Certain borderline resectable tumours can be brought into the realm of surgical excision by administration of NACT. Isolated studies have shown the benefit of CTRT in terms of organ preservation (tongue and mandible), however readers should be aware that these are highly select patients treated at few centres and hence may have limited applicability.

Conclusion :

Oral cancer patients are regularly treated in our Institute with satisfactory outcomes. The Multi-disciplinary Joint clinic has been helpful in streamlining the patient pathway and reducing delay in management. Management of oral cancer requires a multidisciplinary team working together to achieve best outcomes.

Conflict of Interest :

None of the authors have any conflict of interest to declare.

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