



## Head and Neck Oncosurgery in the Extreme Elderly: Case Reports

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### Abstract

**Background:** Head and Neck Cancers (HNC) heterogeneous group of malignancies. Age is the biggest risk factor for cancer. The developing nations account for the major cancer burden, there is limited data available on treatment in such settings.

Thus, we in this case report reported surgical management of two cases, Oral Tongue Squamous Cell Carcinoma (OSCC) in a 95-year-old and adenocarcinoma of parotid in an 84 years old patient.

**Conclusion:** Surgery is the mainstay of treatment in operable head and neck cancers even in elderly patients and chance should be given for disease free survival and better quality of life, after weighing the risk/benefit ratio. Further research should be carried with more samples of elderly patients for evidence-based practice, as in most of the trials this age group is excluded.

**Keywords:** HNC; OSCC; Adenocarcinoma parotid; Age

### Introduction

Head and neck cancer refer to a heterogeneous group of malignancies originating from the upper aerodigestive tract, including the oral cavity and lip, the pharynx, the larynx, the salivary glands, the ear, the nasal cavity, and the paranasal sinuses. More than 90% of the head and neck cancers are of squamous cell origin and are classified as squamous cell carcinomas of the head and neck [1]. Forty percent of patients present with early disease (stages I and II). In this setting, cure rates around 80% have been achieved with single-modality treatments, either surgery or radiotherapy [2]. The remaining 60% of cases are diagnosed with advanced stages encompassing locally advanced (stages III and IV A/B) and metastatic disease (stage IVC) [2]. Head and Neck Cancers (HNC) accounts for 30% of all cancers in India and more than 650,000 cases and 330,000 deaths worldwide annually according to GLOBOCAN 2018. According to WHO, oral cavity cancers are the most prevalent cancers worldwide and common amongst men.

Age is the biggest single risk factor for cancer. Risk increases significantly after age 50, and half of all cancers occur at age 66 and above. According to the National Cancer Institute, one-quarter of new cancer diagnoses are in people aged 65 to 74 [3]. Why an aging body is more susceptible to cancer has no single explanation. Scientists continue to sift through an array of theories, all of which may contribute to cancer development, which in most cases occurs over a long time. One view is that cancer develops in older people simply because of their prolonged exposure to carcinogens such as sunlight, radiation, environmental chemicals, and substances in the food we eat. Mutations also occur as a result of random errors when a cell's DNA is copied before it divides. As a result, our cells accumulate more mutations the longer we live.

Malignant salivary gland tumors account for 7% of head and neck cancers and most of them occur in the parotid gland. The most common malignant parotid gland tumor is mucoepidermoid carcinoma followed by adenocarcinoma [4]. Adenocarcinoma occurs in older patients in their seventh decade with 4:1 male predominance, and predominantly in major salivary gland tumors. Most of these tumors are high grade with a propensity for regional metastasis 23%, distant metastasis 37%, and OS 10% to 60%. Treatment is wide local excision, elective neck dissection, and postoperative radiation therapy.

The pre- and post-operative cares are challenging in these elderly patients and the postoperative recovery depends on several factors like associated comorbidities, nutritional status, social support

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and psychological state (depression). This has also been linked to survival, due to progressively decreasing organ functions and associated metabolic changes.

Although developing nations account for >60% of the global head neck cancer burden, there is limited data available on the treatment of elderly patients in such a setting [5].

About 24% of the Head and Neck Squamous Cell Carcinoma (HNSCC) are seen in patients older than 70 years [6]. The Department of Head and Neck Oncosurgery, KCHRC Goraj reports surgical management of two cases, Oral Tongue Squamous Cell Carcinoma in a 95-year-old and adenocarcinoma of parotid in an 84 years old patient.

## Case Series

### Case 1: Oral tongue

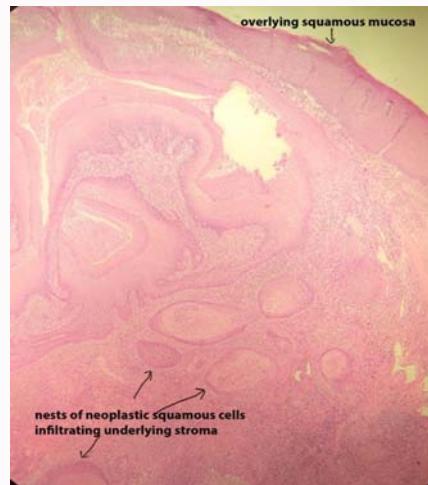
A 95-year-old male presented to the Head and Neck Oncology OPD of our institute in February 2020 with a chief complaint of ulcer over the right lateral tongue for 1 month with difficulty in chewing food. He had a habit of smoking tobacco (Beedi) about 2 packs per day for the last 75 years and occasional alcohol consumption.

On examination of the oral cavity, there was an exophytic ulcerative mass 1 cm × 1.5 cm approx., on right lateral tongue in 1<sup>st</sup> premolar and molar region, not crossing the midline with no extension into the base of tongue or tonsillo-lingual junction. The Palpation of the neck revealed no signs of lymphadenopathy.

Punch biopsy from the right lateral tongue revealed epithelial hyperplasia and surface candidal colonization. CECT of the oral cavity and neck revealed an enhancing lesion in the right lateral tongue measuring 11.9 mm × 21 mm × 29.9 mm (AP × CC × RL) not crossing the midline. Floor of mouth and tonsillo-lingual junction spared without any evidence of bony cortical erosion. The patient did not have any medical co-morbidity. Case was discussed in our Multidisciplinary Joint Clinic and the plan was per oral wide local excision under general anesthesia with frozen section study to establish a primary diagnosis. The surgical plan was discussed with the patient and his family members and was counseled for the need for the ipsilateral neck dissection. They were also counseled regarding the need for adjuvant postoperative radiotherapy. The patient communicated his wish for active surgical treatment and adjuvant treatment depending on the final histopathology report.

Under general anesthesia, per oral wide local excision of right lateral tongue lesion was performed with adequate margins and the specimen sent for frozen section study. The frozen section report established the diagnosis of squamous cell carcinoma with depth of invasion 11 mm. An ipsilateral elective neck dissection was performed through a right-side horizontal neck crease incision with removal of level I-III nodes. Two-layer closure of platysma and skin was achieved. Patient had an uneventful postoperative period. He was discharged on 6<sup>th</sup> post-operative day and the nasogastric tube was removed on 14<sup>th</sup> postoperative day and the patient was started on liquid and semi solid diet.

The final histopathology report (Figure 1) as mentioned in Table 1 below, of the glossectomy specimen showed well differentiated squamous cell carcinoma, with maximum tumor dimension of 22 mm, tumor infiltrates to a depth of about 11 mm in to the underlying skeletal muscle. Base was free of tumor. Anterior, superomedial, posterior and inferior mucosal resection margins were free of tumor.



**Figure 1:** Histopathology of oral tongue squamous cell carcinoma. Squamous cell carcinoma, well differentiated epithelium shows keratinization and minimal nuclear pleomorphism, hematoxylin and eosin x100.

Lymphovascular tumor emboli not seen and perineural invasion not present. Tumor has pushing type of edges (WPOI-3). Right submandibular salivary gland was free of tumor and 14 level I-III right cervical lymph nodes free of tumor. (pT3N0Mx, according to 8<sup>th</sup> ed AJCC).

After reviewing final histopathology report patient was advised for postoperative radiotherapy in the month of March. Patient was reluctant to undergo radiotherapy treatment However due to the COVID-19 pandemic and the subsequent nationwide lockdown did not allow him to come to the hospital for completing his adjuvant radiotherapy treatment. On last follow up after 3 months of surgery he was alive and disease free.

### Case 2: Adenocarcinoma of parotid

An 84-year-old male presented to the head and neck oncology OPD in the month of August 2020 with a right parotid swelling (Figure 2) since 1year which was slow growing to achieve the present size. On inspection 6 cm × 5 cm approx., firm painless well circumscribed mass with facial nerve palsy noted i.r.t right parotid region with inflammatory changes of overlying skin noted. On palpation, inspector findings are confirmed and the circumscribed mass is not fixed to underlying structures and no cervical lymphadenopathy



**Figure 2:** Pre-operative image of patient (adenocarcinoma of parotid).

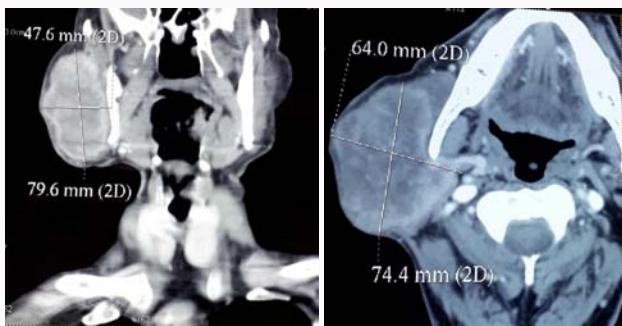


Figure 3a, 3b:

**CT scan – Findings:**  
 Heterogeneously enhancing soft tissue mass of right parotid gland involving both superficial and deep lobes. It measures 79.6 x 74.4 x 64mm (CC x AP x RL).  

- No evidence of calcific foci is seen within.
- It reaches till skin surface.
- It surrounds right ascending ramus of mandible without erosion of later anteriorly.
- Fat plane with ipsilateral Masseter muscle is lost anteriorly.
- Fat plane with ipsilateral stylo-glossus and sterno-cleido-mastoid muscle is lost medially.
- No evidence of parapharyngeal space involvement is seen.
- Superiorly it lies below the level of zygoma without erosion of later.
- Inferiorly it lies till the level of Hyoid bone in proximity with sterno-cleido-mastoid muscle anterior to later.

 No evidence of significant cervical lymphadenopathy is seen.  
 Thyroid, rest of salivary glands, nasopharynx, oro-pharynx, hypopharynx and larynx appear normal.  
 Hyoid bone, cricoid, thyroid and arytenoid cartilages appear normal.  
 Bones and joints appear unremarkable.

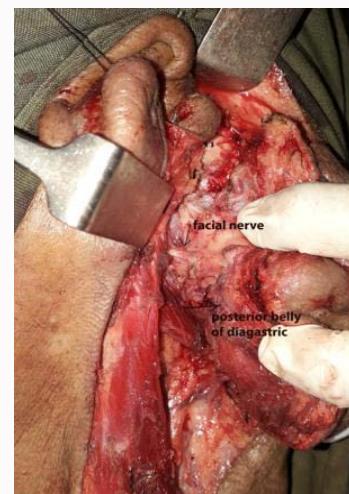
Figure 3c:

**Figure 3:** Figure 3a - CT Image (Adenocarcinoma of Parotid) Figure 3b, 3c. Figure 3a shows a large well defined, lobulated heterogeneously enhancing soft tissue lesion involving right parotid region, it reveals internal non-enhancing necrotic area and Figure 3b shows that it anteriorly involves masseter muscle and lies in close relation with ramus of mandible, laterally it reaches up to overlying skin, medially it involves deep lobe of parotid.

noted.

FNAC from right parotid swelling was suggestive of Carcinoma. Subsequent tru-cut biopsy revealed moderately differentiated adenocarcinoma with clear cell morphology. MRI and CT scan (Figure 3a-3c) showed large ill-defined heterogeneously enhancing altered signal intensity mass of approximate size ( $66 \times 60 \times 80$ ) mm (AP x TRA x CC) involving superficial and deep lobe of right parotid gland. No evidence of enhancement or thickening of facial nerve in temporal and CP angle. Superiorly, it reaches up to ear lobule and external auditory canal with no extension within the canal. Anteriorly, it abuts right masseteric space and mandibular cortex and marrow signal is preserved. Posteriorly it abuts right styloid and mastoid process, parapharyngeal space appears unremarkable. Laterally, it abuts superficial layer of deep cervical fascia. Carotid space appears unremarkable. Case was discussed in our multidisciplinary joint clinic and further discussions were held with the patient and his family regarding the nature of surgery and the morbidity of having permanent facial palsy and also the need for post-operative adjuvant treatment. In all these discussions the patient was the key focus and he exhibited a strong desire for definitive treatment to improve his quality of life and be pain free. The patient did not have any medical comorbidity and was declared fit for surgery by our physician and anesthesiologist. The surgical plan was right Radical parotidectomy with elective neck dissection with spiral pectoralis major myocutaneous flap under general anesthesia.

Under general anesthesia, regular skin preparation and draping had done, modified Blair's incision incorporating the Skin Island and drop down to neck crease to expose lateral neck as well. Flap elevation done ("cobble-stoning" of fat on under surface of flap). Parotid tissue elevation from SCM muscle and for anterior and posterior retraction 2-0 silk sutures placed over upper cheek flap and ear lobe respectively and secured with Allis clamps to the drapes. Adequate exposure



**Figure 4a:** Intra-operative image of patient (adenocarcinoma of parotid) showing face nerve.



**Figure 4b:** Intra-operative image of patient (adenocarcinoma of parotid) showing face nerve and tumor.

of parotid achieved by detachment of parotid from tragal cartilage and anterior SCM. The digastric muscle identified and followed to mastoid tip. The tragal pointer identified as facial nerve (Figure 4a, 4b) runs 1 cm inferior and 1cm deeper to this and parotid-mastoid fascia incised as nerve trunk located within fat plane to this fascia and blunt dissection carried out to identify pes anserinus which is the main bifurcation of facial nerve into its upper and lower branches (Figure 4a,4b). Right level IIa neck node and right facial nerve cut end sent for frozen section analysis.

Frozen section analysis of the ipsilateral level 2a lymph node revealed metastatic carcinoma and the cut end of right facial nerve showed absence of any tumor deposits. Ipsilateral modified neck dissection was carried out and radical parotidectomy performed (Figure 5a, 5b), the post excision surgical defect was reconstructed with a Spiral Pectoralis Major Myocutaneous Flap (Figure 6). Closure done using 2-0 vicryl and 3-0 ethilon sutures and perforated Jackson Pratt drains placed and dressing done. Post-operative period was uneventful and the patient got discharged on post-op day 8<sup>th</sup> with neck and chest drains removed.

Final histopathology report (Figure 7) as mentioned in Table 1

**Table 1:** Histological features of oral tongue SCC and adenocarcinoma of parotid.

HPR	Oral tongue SCC	Adenocarcinoma of parotid
<b>Grade</b>	Well differentiated squamous cell carcinoma	Poorly differentiated high grade adenocarcinoma
<b>Perineural Invasion (PNI)</b>	Absent	Evident
<b>Lymphovascular emboli (LVI)</b>	Absent	Seen
<b>Extranodal extension (ENE)</b>	Absent	Present
<b>All margins free of tumor</b>	Yes	Yes
<b>Stage</b>	pT3N0Mx	pT3N3bMx

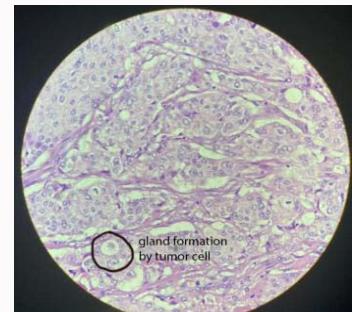
**Figure 5a:** Specimen (Adenocarcinoma of Parotid).**Figure 5b:** Specimen.

below, showed poorly differentiated adenocarcinoma, high grade, right side parotidectomy specimen. Maximum tumor dimension is about 11 cm. overlying skin free of tumor. Tumor infiltrates surrounding adipose tissue and skeletal muscle. All margins free of tumor. Perineural invasion evident and lymphovascular emboli seen. Separately sent facial nerve cut end as F S is free of tumor. 2/4 level II cervical nodes sent as Frozen Section showed metastatic carcinoma without Extranodal Extension (ENE) and maximum dimension of positive node is about 22 mm. 2/3 intraparotid nodes with metastatic carcinoma with ENE and maximum dimension among positive node is about 8 mm. Twelve right cervical nodes free of parotid adenocarcinoma. (pT3N3bMx, according to 8<sup>th</sup> ed AJCC). After reviewing final histopathology report, patient has been advised for post-operative radiotherapy and regular follow up.

## Discussion

Incidence of oral squamous cell carcinoma in India 12.6 per 100,000 population according to WHO. Oral tongue is one of the most common sites. In a cohort study by Wen-chi Liu et al. [7] in patients greater than 70 years of age compared definitive RT with surgery and concluded surgery may be more beneficial than radiotherapy in early stage OSCC elderly patients.

In our present case also, surgery was primary treatment

**Figure 6:** Post-operative image of patient (Adenocarcinoma of Parotid) showing reconstruction with Spiral PMMC.**Figure 7:** Histopathology (Adenocarcinoma of Parotid). Adenocarcinoma, poorly differentiated, invasive glandular differentiation in solid sheets, hematoxylin and eosin x400.

modality, and upon reviewing of final histopathology, post-operative Radiotherapy was advised.

In another study by Soudry et al. [8] in comparatively homogeneous cohort of 85 elderly patients with oral tongue SCC, survival analysis showed that disease-free and disease-specific survival rates were similar in the older and younger patients. Overall survival was lower in the older patients, but the difference was not statistically significant.

In our case report, follow-up of 3 month post-surgery patient was comfortable; no disease related symptoms noted, however due COVID-19 pandemic situation, he was unable to come for further follow-ups.

Adenocarcinoma of parotid is high grade aggressive type of salivary gland malignancy. Extent of the surgery depends on the extent of the tumor and not on the histological grading. Elective neck dissection can be done in cases with high grade histology (high grade MEC, malignant mixed tumor, salivary ductal carcinoma, SCC,

Adenocarcinoma NOS), T3/4 disease, extra parotid extension, facial nerve involvement and positive intra parotid lymph nodes which is consistent with our case report. Frozen section analysis use is for tissue in proximity of the nerve before its sacrifice and for evaluation of nodes which may change the surgical plan. As in our case report frozen section analysis of right level II node revealed metastatic carcinoma, so modified radical neck dissection done.

In literature according to studies where grading of salivary adenocarcinoma is performed, high-grade lesions are associated with a much worse prognosis than low-grade lesions [9-11]. Survival data demonstrate a significant decline from five to ten years after treatment, which indicates the need for adequate long-term follow-up when assessing the results of treatment for this type of salivary cancer [9-11].

## Conclusion

Surgery is the mainstay of treatment in operable head and neck cancers even in elderly patients and chance should be given for disease free survival and better quality of life, after weighing the risk/benefit ratio. Further research should be carried with more samples of elderly patients for evidence-based practice, as in most trials this age group is excluded.

## References

1. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. *Int J Cancer.* 2015;136(5):E359-86.
2. Szturz P, Vermorken JB. Treatment of elderly patients with squamous cell carcinoma of the head and neck. *Front Oncol.* 2016;6:199.
3. National Cancer Institute. Age and Cancer Risk.
4. Victor Shing HT, Chan JY, Tsang RK, Wei WI. Review of salivary gland neoplasms. *ISRN Otolaryngol.* 2012;2012:872982.
5. Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, et al. Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11. Lyon, France: International Agency for Research on Cancer. GLOBOCAN 2012;1.0;2013.
6. Muir CS, Fraumeni JF, Doll R. The interpretation of time trends. *Cancer Surv.* 1994;19-20:5-21.
7. Liu WC, Liu HE, Kao YW, Lei Qin, Kuan-Chou Lin, Chih-Yuan Fang, et al. Definitive radiotherapy or surgery for early oral squamous cell carcinoma in old and very old patients: A propensity-score-matched, nationwide, population-based cohort study. *Radiother Oncol.* 2020;151:214-21.
8. Soudry E, Preis M, Hod R, Hamzany Y, Hadar T, Bahar G, et al. Squamous cell carcinoma of the oral tongue in patients younger than 30 years: Clinicopathologic features and outcome. *Clin Otolaryngol.* 2010;35(4):307-12.
9. Spiro RH, Huvos AG, Strong EW. Adenocarcinoma of salivary origin: A clinicopathologic study of 204 patients. *Am J Surg.* 1982;144(4):423-31.
10. Kemp BL, Batsakis JG, el-Naggar AK, Kotliar SN, Luna MA. Terminal duct adenocarcinomas of the parotid gland. *J Laryngol Otol.* 1995;109(5):466-8.
11. Simpson JR, Matsuba HM, Thawley SE, Maune M. Improved treatment of salivary gland adenocarcinomas: planned combined surgery and irradiation. *Laryngoscope.* 1986;96(8):904-7.