

# Childhood tongue squamous cell carcinoma

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**Background:** Tongue squamous cell carcinoma is a very rare disease in children with only a few cases reported in the literature. A case of 15 year old female tongue squamous cell carcinoma (SCC) with review of reported cases is presented. Pediatricians and family physicians should also be aware of the possibility of this disease entity occurring at an earlier age to decrease delay in diagnosis and initiation of treatment.

**Key words:** Squamous Cell Carcinoma, Tongue, Childhood, Head and Neck, Oral Cavity, Cancer, Malignancy.

## INTRODUCTION

Tongue is the most common site for an oral cavity malignancy. More than 95% of oral tongue malignant tumors are squamous cell carcinoma (SCC). Peak incidence is seen in the sixth decade for men and in the seventh decade for women. Tongue SCC in young adults is very rare and in a series of 115 tongue SCC patients, 12.1% were 21 to 25 years old and only 1.8% were under 20 years old.<sup>[1]</sup> In this article a review of childhood (15 year old or less) tongue SCC is discussed.

## CASE REPORT

A 15 year old female child with a chronic 0.5 cm ulcer in the right side of her tongue base which was well differentiated SCC in pathologic examination was referred to Iran Cancer Institute because of resistance to treatment with chemoradiation.

Her dentition was good and she had a bulged reddish lesion in the base of her tongue on the right side. There was no history of smoking, ethanol consumption or any other harmful habits. The patient had no family history of tongue SCC.

There was no palpable neck lymph node and no metastasis was found in neck sonography and thorax CT scan.

Resection and primary repair of tongue was done by pull through technique (Figure 1). Tumor diameter was 0.5cm in pathology report. Six days later she was discharged in good condition but did not refer to clinic for follow up. Telephone follow up revealed

that because of an orocutaneous fistula in the suture line a percutaneous endoscopic gastrostomy was done for her in another hospital. Percutaneous endoscopic gastrostomy had failed and caused a missed peritonitis. Laparotomy had not been effective and the patient had expired about two weeks later.

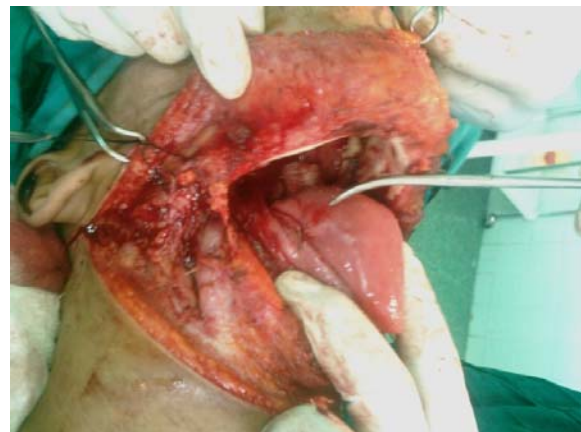


Figure 1. 0.5 cm ulcer in right side of tongue base.

## DISCUSSION

The main causative factors of tongue SCC are constant irritants to the oral mucosa, like tobacco chewing or ill-fitting dentures. Other agents including alcohol abuse and smoking tobacco have also been implicated.<sup>[2]</sup> However, in children other causes must be investigated as the reported case was a child and did not have any smoking or drinking habits and no significant medical history. Torossian et al.<sup>[3]</sup> in their review have categorized the risk factors in three groups:

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1. The immunosuppression induced by a hemeopathy (Fanconi's anemia) or by chemotherapy.
2. The genodermatosis diseases such as xeroderma pigmentosum (XD) 15 or KID syndrome (keratitis, ichthyosis, deafness) 8.
3. A group characterized by no particular personal or family history. Such cases are very rare.

In a review by Amichetti [4] in 1989, 20 case reports of tongue SCC below 15 years of age were gathered. In a review from 1989 till 2010, we found 11 reported cases (Table 1) and the presented case is also added to them. 7 Of 11 patients were in the third group of the Toros-

sian categorization. In the reported cases follow up was not complete and in the present case, survival is not disease-specific.

It is stated that when pediatric and adult patients are matched by gender, tobacco use, history, TNM status, surgical procedure and adjuvant radiotherapy, outcomes for overall survival, disease-specific survival, and recurrence-free survival are equivalent. Therefore, pediatric patients with SCC of the oral tongue should be treated similar to adult patients.[5]

Oral cancer occurring in young adults is not common but should always be considered when they present with persistent ulceration, leukoplakia, erythroplakia

**Table1. Patient characteristics, treatment and results of squamous cell carcinoma of the oral tongue in patients less than fifteen years of age: cases reported in the literature.**

Author	Publication date	Sex	Age	Location	Predisposing factor	Pathology	TNM staging	Treatment	Result
Amichetti <sup>[4]</sup>	1989	female	14	Right anterior half	None	Moderately differentiated SCC	T3N1M0	RT+CHT	Recurrence after 3months and death after 5months
Murayama et al. <sup>[6]</sup>	1990	male	11	Tip dorsum and left side	Fanconi's Anemia and BMY	Well differentiated SCC	T3N?M?	CHT	Died at 3 months
Socie et al. <sup>[7]</sup>	1991	male	12	?	Fanconi's Anemia and BMT	SCC	?	?	?
Huet-Lamy et al. <sup>[8]</sup>	1992	male	11	Tip	Xeroderma pigmentosum	SCC	?	Surg.+RT	Alive at 72 months
Morehead et al. <sup>[9]</sup>	1993	male	12	Left side	acute lymphoblastic leukemia and bone marrow transplantation	Well differentiated SCC	T?N0M?	Surg .	Recurrence after 6,8 and 21 months
Torossian et al. <sup>[3]</sup>	2000	male	13	right side	None	Well differentiated SCC	T3N0M0	CHT+Surg.+ RT	No recurrence in 2 y follow up
Soni et al. <sup>[10]</sup>	2001	female	8	Left side	None	Undifferentiated SCC	T4N2M0	RT+CHT	disease-free 24 months after treatment
Salum et al. <sup>[11]</sup>	2006	female	12	left side of the dorsum	Fanconi anemia and bone marrow transplantation	SCC	T1N0M0	-	Progressive growth 4 y later and died after 4months
Seyedmajidi and Faizabadi <sup>[12]</sup>	2008	male	14	Tip	None	moderate- to well-differentiated SCC	T1N0M0	Surg.+ Surg.	Recurrence after 4months and well in 5months follow up
Fadoo et al. <sup>[13]</sup>	2010	female	11	Left side	chewing betel nut	infiltrating SCC	T4N3Mx	-	?
Nagy et al. <sup>[14]</sup>	2010	male	15	Right side	None	SCC	T2N?M?		?
Present case	2011	female	15	Base of tongue	None	Well differentiated SCC	T1N?M0	RT+CHT then Surg.	Died 1month later

or swellings with no obvious local cause particularly in the high-risk sites of the tongue and floor of the mouth.<sup>[15]</sup>

There is a need to investigate the etiology of intra oral cancers in younger patients since a significant proportion (almost 40%) of these patients do not have associated risk factors for cancer.<sup>[1]</sup>

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