

Table 2 Initial diagnosis of lesions in demographic factors, extraoral risk factor and intraoral risk factors

Initial diagnosis	Numbers of subject* (%)															
	Gender		Age		Dependent		Cigarette		Smokeless tobacco		Snuff		Alcohol		Betel quid	
	Male	Female	< 60	≥ 60 years	Home	Bed	Hx of	Non	Hx of	Non SMT	Hx of SN	Non-SN	Hx of	Non-	Hx of	Non BQC
	n =68	n = 115	years	n = 166	bound	ridden	smoking	smoker	SMT	n= 163	n= 13	n= 170	drinker	drinker	BQC	n= 143
			n = 17	n = 166	n = 100	n= 83	n= 78	n= 105	n= 20				n= 93	n= 90	n = 40	
Low RMT																
Dental fistula & abscess	7 (10.3)	5 (4.3)	1 (5.9)	11 (6.6)	6 (6)	6 (7.2)	8 (10.3)	4 (3.8)	0 (0)	12 (7.4)	0 (0)	12 (7.1)	6 (6.5)	6 (6.7)	1 (2.5)	11 (7.7)
Angular cheilitis	2 (2.9)	4 (3.4)	0 (0)	6 (3.6)	1 (1)	5 (6)	4 (5.1)	2 (1.9)	1 (5)	5 (3.1)	0 (0)	5 (2.9)	4 (4.3)	2 (2.2)	3 (7.5)	3 (2.1)
Mucocele	1 (1.4)	2 (1.7)	0 (0)	3 (1.8)	2 (2)	1 (1.2)	0 (0)	3 (2.9)	0 (0)	3 (1.8)	0 (0)	3 (1.8)	1 (1.1)	2 (2.2)	1 (2.5)	2 (1.4)
Nicotinic stomatitis	1 (1.4)	0 (0)	0 (0)	1 (0.6)	1 (1)	0 (0)	1 (1.3)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (1.1)	0 (0)	0 (0)	1 (0.7)
Pyogenic granuloma	0 (0)	2 (1.7)	0 (0)	2 (1.2)	2 (2)	0 (0)	0 (0)	2 (1.9)	1 (5)	1 (0.6)	0 (0)	1 (0.6)	2 (2.2)	0 (0)	1 (2.5)	1 (0.7)
Betel quid induced lichenoid reaction	0 (0)	1 (0.8)	0 (0)	1 (0.6)	1 (1)	0 (0)	0 (0)	1 (1)	1 (5)	0 (0)	0 (0)	0 (0)	1 (1.1)	0 (0)	1 (2.5)	0 (0)
Atrophic glossitis	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (1.2)	0 (0)	1 (1)	0 (0)	1 (0.6)	0 (0)	0 (0)	1 (1.1)	0 (0)	1 (2.5)	0 (0)
Geographic tongue	0 (0)	1 (0.8)	0 (0)	1 (0.6)	1 (1)	0 (0)	0 (0)	1 (1)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (1.1)	0 (0)	1 (0.7)
Moderate RMT																
Traumatic ulcer	2 (2.9)	10 (8.7)	2 (11.8)	10 (6)	4 (4)	8 (9.6)	3 (3.8)	9 (8.6)	1 (5)	11 (6.7)	1 (7.7)	11 (6.5)	3 (3.2)	9 (10)	3 (7.5)	9 (6.3)
Frictional keratosis	3 (4.4)	6 (5.2)	1 (5.9)	8 (4.8)	3 (3)	6 (7.2)	4 (5.1)	5 (4.8)	0 (0)	9 (5.5)	2 (15.4)	9 (5.3)	4 (4.3)	5 (5.6)	1 (2.5)	8 (5.6)
Irritation fibroma	4 (5.9)	4 (3.5)	0 (0)	8 (4.8)	4 (4)	4 (4.8)	3 (3.8)	5 (4.8)	1 (5)	7 (4.3)	0 (0)	7 (4.1)	2 (2.2)	6 (6.7)	3 (7.5)	5 (3.5)
Denture stomatitis	0 (0)	2 (1.7)	0 (0)	2 (1.2)	1 (1)	1 (1.2)	0 (0)	2 (1.9)	1 (5)	1 (0.6)	0 (0)	2 (1.2)	0 (0)	2 (2.2)	1 (2.5)	1 (0.7)
Epulis fissuratum	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (1.2)	0 (0)	1 (1)	0 (0)	1 (5)	0 (0)	0 (0)	0 (0)	1 (1.1)	1 (2.5)	0 (0)
Suction cup induced palatal bone resorption	1 (1.4)	0 (0)	0 (0)	1 (0.6)	1 (1)	0 (0)	0 (0)	1 (1)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (1.1)	0 (0)	1 (0.7)
Leukoplakia	0 (0)	1 (0.8)	0 (0)	1 (0.6)	1 (1)	0 (0)	0 (0)	1 (1)	1 (5)	0 (0)	0 (0)	1 (0.6)	1 (1.1)	0 (0)	1 (2.5)	0 (0)
High RMT																
Erythroleukoplakia	1 (1.4)	0 (0)	0 (0)	1 (0.6)	1 (1)	0 (0)	1 (1.3)	0 (0)	0(0)	1 (0.6)	0 (0)	1 (0.6)	1 (1.1)	0 (0)	0 (0)	1 (0.7)
Exophytic lesion in oropharynx CA patient	1 (1.4)	0 (0)	1 (5.9)	0 (0)	1(1)	0 (0)	1 (1.3)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (1.1)	0 (0)	0 (0)	1 (0.7)
Not found oral lesion	50 (73.5)	81 (70.4)	12 (70.6)	119 (71.7)	74 (74)	57 (68.6)	57 (73.1)	74 (70.5)	13 (65)	118 (72.4)	10 (76.9)	121 (71.2)	69 (74.2)	62 (68.9)	24 (60)	107 (74.8)

RMT: Risk of malignant transformation; Hx: History; SMT: Smokeless tobacco; SN: Snuff; BQC: Betel quid chewing

Extraoral factors : Cigarette, Smokeless tobacco, Snuff, Alcohol, Betel quid, UV exposed, HNCA patient, HNCA family

Intraoral factors : Teeth remaining, Chipped teeth, Unilateral chewing, Denture use, Dry mouth

* Subject with multiple lesions was recounted if he/she had more than one type of lesion.

Table 2 Initial diagnosis of lesions in demographic factors, extraoral risk factor and intraoral risk factors (cont.)

Initial diagnosis	Numbers of subject* (%)															
	UV exposed		HNCA patient		HNCA family		Teeth remaining		Chipped teeth		Unilateral chewing		Denture use		Dry mouth	
	Routinely exposed	Less exposed	Yes	No	Yes	No	< 20 teeth	≥ 20 teeth	None	Yes	None	Yes	No denture	Use denture	None/mild	Moderate/severe
	n= 155	n= 28	n= 3	n= 180	n= 14	n= 169	n= 120	n= 63	n= 124	n= 59	n= 161	n= 22	n= 156	n= 27	n= 180	n= 3
Low RMT																
Dental fistula & abscess	7 (4.5)	5 (17.9)	0 (0)	12 (6.7)	0 (0)	12 (7.1)	7 (5.8)	5 (7.9)	3 (2.4)	9 (15.3)	9 (5.6)	3 (13.6)	11 (7.1)	1 (3.7)	12 (6.7)	0 (0)
Angular cheilitis	5 (3.2)	1 (3.6)	0 (0)	6 (3.3)	0 (0)	6 (3.6)	3 (2.5)	3 (4.8)	5 (4.0)	1 (1.7)	6 (3.7)	0 (0)	6 (3.8)	0 (0)	4 (2.2)	2 (66.7)
Mucocele	1 (0.6)	2 (7.1)	0 (0)	3 (1.7)	1 (7.1)	2 (1.2)	3 (2.5)	0 (0)	3 (2.4)	0 (0)	3 (1.9)	0 (0)	2 (1.3)	1 (3.7)	3 (1.7)	0 (0)
Nicotinic stomatitis	0 (0)	1 (3.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)
Pyogenic granuloma	1 (0.6)	1 (3.6)	0 (0)	2 (1.1)	0 (0)	2 (1.2)	2 (1.7)	0 (0)	1 (0.8)	1 (1.7)	2 (1.2)	0 (0)	2 (1.3)	0 (0)	2 (1.1)	0 (0)
Betel quid induced lichenoid reaction	1 (0.6)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)
Atrophic glossitis	1 (0.6)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	0 (0)	1 (33.3)
Geographic tongue	1 (0.6)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	0 (0)	1 (3.7)	1 (0.6)	0 (0)
Moderate RMT																
Traumatic ulcer	11 (7.1)	1 (3.6)	1 (33.3)	11 (6.1)	1 (7.1)	11 (6.5)	8 (6.7)	4 (6.3)	10 (8.1)	2 (3.4)	11 (6.8)	1 (4.5)	7 (4.5)	5 (18.5)	11 (6.1)	2 (66.7)
Frictional keratosis	9 (5.8)	0 (0)	0 (0)	9 (5.0)	1 (7.1)	8 (4.7)	1 (0.8)	8 (12.7)	4 (3.2)	5 (8.5)	7 (4.3)	2 (9.1)	8 (5.1)	1 (3.7)	9 (5)	0 (0)
Irritation fibroma	8 (5.2)	0 (0)	0 (0)	8 (4.4)	1 (7.1)	7 (4.1)	6 (5)	2 (3.2)	5 (4)	3 (5.1)	7 (4.3)	1 (4.5)	6 (3.8)	2 (7.4)	8 (4.4)	0 (0)
Denture stomatitis	2 (1.3)	0 (0)	0 (0)	2 (1.1)	1 (7.1)	1 (0.6)	2 (1.7)	0 (0)	2 (1.6)	0 (0)	2 (1.2)	0 (0)	0 (0)	2 (7.4)	2 (1.1)	0 (0)
Epulis fissuratum	1 (0.6)	0 (0)	0 (0)	1 (0.6)	1 (7.1)	0 (0)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	0 (0)	1 (3.7)	1 (0.6)	0 (0)
Suction cup induced palatal bone resorption	1 (0.6)	0 (0)	0 (0)	1 (0.6)	1 (7.1)	0 (0)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	0 (0)	1 (3.7)	1 (0.6)	0 (0)
Leukoplakia	1 (0.6)	0 (0)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)
High RMT																
Erythroleukoplakia	1 (0.6)	0 (0)	0 (0)	1 (0.6)	1 (7.1)	0 (0)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)
Exophytic lesion in oropharynx CA patient	1 (0.6)	0 (0)	1 (33.3)	0 (0)	0 (0)	1 (0.6)	1 (0.8)	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)	1 (0.6)	0 (0)
Not found oral lesion	113 (72.9)	18 (64.3)	1 (33.3)	130 (72.2)	9 (64.3)	122 (72.2)	87 (72.5)	44 (69.8)	90 (72.6)	41 (69.5)	114 (70.8)	18 (81.8)	115 (73.7)	18 (66.7)	131 (72.8)	0 (0)

RMT: Risk of malignant transformation; Hx: History; UV: Ultraviolet; HNCA: Head and neck cancer

Extraoral factors : Cigarette, Smokeless tobacco, Snuff, Alcohol, Betel quid, UV exposed, HNCA patient, HNCA family

Intraoral factors : Teeth remaining, Chipped teeth, Unilateral chewing, Denture use, Dry mouth

* Subject with multiple lesions was recounted if he/she had more than one type of lesion.

Table 3 Oral lesion status in demographic factors, extraoral risk factor and intraoral risk factors

Oral lesion status	Numbers of subject (%)															
	Gender		Age		Dependent status		Cigarette		SMT		Snuff		Alcohol		Betel quid	
	Male	Female	< 60 years	≥ 60 years	Home bound	Bed ridden	Non-smoking	Hx of smoking	Non-SMT	Hx of SMT	Non-SN	Hx of SN	Non-drinker	Hx of drinker	Non BQC	Hx of BQC
Not found	50 (73.5)	81 (70.4)	12 (70.6)	119 (71.7)	74 (74)	57 (68.7)	74 (70.5)	57 (73.1)	118 (72.4)	13 (65)	121 (71.2)	10 (76.9)	62 (68.9)	69 (74.2)	107 (74.8)	24 (60)
Low RMT	7 (10.3)	14 (12.2)	1 (5.9)	20 (12.1)	12 (12)	9 (10.8)	11 (10.5)	10 (12.8)	18 (11)	3 (15)	21 (12.4)	0 (0)	9 (10)	12 (12.9)	14 (9.8)	7 (17.5)
Mod-high RMT	11 (16.2)	20 (17.4)	4 (23.5)	27 (16.3)	14 (14)	17 (20.5)	20 (19)	11 (14.1)	27 (16.6)	4 (20)	28 (16.5)	3 (23.1)	19 (21.1)	12 (12.9)	22 (15.4)	9 (22.5)
p-value	0.893 ^a		0.710 ^b		0.507 ^a		0.637 ^a		0.778 ^a		0.462 ^b		0.311 ^a		0.173 ^a	

RMT: Risk of malignant transformation; Hx: History; SMT: Smokeless tobacco; SN: Snuff; BQC: Betel quid chewing

Extraoral factors : Cigarette, SMT, Snuff, Alcohol, Betel quid, UV exposed, HNCA patient, HNCA family

Intraoral factors : Teeth remaining, Chipped teeth, Unilateral chewing, Denture use, Dry mouth

Chi-square test ^a or Fisher's exact test ^b; significant level at p < 0.05**Table 3** Oral lesion status in demographic factors, extraoral risk factor and intraoral risk factors (cont.)

Oral lesion status	Numbers of subject* (%)															
	UV exposed		HNCA patient		HNCA family		Teeth remaining		Chipped teeth		Unilateral chewing		Denture use		Dry mouth	
	Less exposed	Routinely exposed	No	Yes	None	Yes	< 20 teeth	≥ 20 teeth	None	Yes	None	Yes	No denture	Use denture	None/mild	Moderate/severe
Not found	18 (64.3)	113 (72.9)	130 (72.2)	1 (33.3)	122 (72.2)	9 (64.3)	87 (72.5)	44 (69.8)	90 (72.6)	41 (69.5)	114 (70.8)	17 (77.3)	113 (72.4)	18 (66.7)	131 (72.8)	0 (0)
Low RMT	8 (28.6)	13 (8.4)	21 (11.7)	0 (0)	20 (11.8)	1 (7.1)	16 (13.3)	5 (7.9)	13 (10.5)	8 (13.6)	20 (12.4)	1 (4.5)	18 (11.5)	3 (11.1)	19 (10.6)	2 (66.7)
Mod-high RMT	2 (7.1)	29 (18.7)	29 (16.1)	2 (66.7)	27 (16)	4 (28.6)	17 (14.2)	14 (22.2)	21 (16.9)	10 (16.9)	27 (16.8)	4 (18.2)	25 (16)	6 (22.2)	30 (16.7)	1 (33.3)
p-value	0.008* ^b		0.110 ^b		0.539 ^b		0.263 ^a		0.826 ^a		0.771 ^b		0.670 ^b		0.012 ^b	

MT: Malignant transformation

Extraoral factors : Cigarette, SMT, Snuff, Alcohol, Betel quid, UV exposed, HNCA patient, HNCA family

Intraoral factors : Teeth remaining, Chipped teeth, Unilateral chewing, Denture use, Dry mouth

Chi-square test ^a or Fisher's exact test ^b; significant level at p < 0.05