Prevalence of oral maxillary and mandibular tori among outpatients attending dental collage in Basra governorate southern of Iraq

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Abstract:

The objectives of the study is the assessment of torus palatinus (TP) prevalence as well as torus mandibularis (TM) among different gender and age groups.

Seven hundred and fifty (750) out door patients (380 male and 370 female) were tested for the tori presence or absence at dentistry collage in Basrah city between January 2019 and June 2019. Sex, gender and location factors were evaluated.

The prevalence rate of TP was 4.73% for male and 5.13% for female, and the prevalence rate of TM was 2.36% for male and 3.24% for female.

In females, TP prevalence was more compared to males. The TP incidence more commonly in middle aged persons, While the TM more commonly in older persons.

Keyword: Exostosis, Prevalence, Tori.

Introduction:

Tori are non-pathologic bony exostosis that are consist of dense cortical bone covered by thin mucosa with poor vascularization [1]. Thin mucosal

membrane covering the tori easily traumatized by removable dental prosthesis unless adequate relief is provided. Surgical removal is mandatory if large exostosis cause trauma or interference with artificial removable replacement insertion or with its function[2]. TP mostly found along the mid suture of the hard palate, and TM located in areas of premolar and canine at the mandible lingual aspect, usually bilateral[3]. TP has four shapes flat, nodular, lobular and spindle[4.5]. The etiology of both tori has been subjected multifactorial due to genetic, mastication, environmental and continued growth[6, 7]. TP has been found more common in females, while TM more frequently in males. Tori usually are noticed in young and middle age adulds[8].

Objectives:

The study aimed to investigate the location and prevalence of TP and TM. Also determine the correlation between current findings and population gender and age.

Materials and methods:

Patients of seven hundred and fifty (380 male and 370 female) randomly selected outdoor admitted at Dentistry College / Basrah University between January to June 2019. Detailed questioner sheet prepared for the study, subjects were stratified depend on their age into 5 age categories: (20-29, 30-39, 40-49, 50-59, ≥60 years). To prevent inter examiner bias, one author clinically examine all the subjects for tori absence or presence through clinical palpation and inspection, the subject who has questionable tori was excluded. Raised bony exostosis located in the hard palatal midline defined as torus palatinus, raised bony exostosis situated in mandibular lingual aspect defined as being torus mandibularis.

The collected data were inserted in a computerized spreadsheet (Microsoft Excel 2013) and analyzed by SPSS version 20.

Results:

Among the 750 male and female studied subjects, 58 person found having tori with a prevalence rate of 7.73% as shown in table 1. TP was presented in 37 subjects with a prevalence rate of 4.93% the males were 18 (4.73%) and the females were 19 (5.13%), whereas TM was detected in 21 subjects expressing 2.8 % prevalence rate, males were 9 (2.36 %) and the females were 12 (3.24%). Table 2 summarize this distribution according to sex.

Most patients located at 40-59 years age group and tori incidence decreased over the 60 years old. The prevalence in each age groups seen in table 3.

Table 1: Tori Prevalence in different groups

Age groups	M+F (Total)	M+F with tori	% Prevalence
20-29	175	9	5.14
30-39	170	15	8.82
40-49	175	19	10.85
50-59	150	10	6.66
≥ 60	80	5	6.25
Total	750	58	7.73

Table 2: Tori distribution in male and female

Tori	Male (%)	Female (%)	Total (%)
Torus palatinus	18 (4.73)	19 (5.13)	37 (4.93)
Torus mandibularis	9 (2.36)	12 (3.24)	21 (2.8)
Total	27 (7.1)	31 (8.37)	58 (7.73)

Table 3: Prevalence of TP and TM based on gender and age

Age groups (years)	Torus palatinus	Torus palatinus	Torus palatinus	Torus mandibularis	Torus mandibularis	Torus mandibularis
	Male (%)	Female (%)	Total (%)	Male (%)	Female (%)	Total (%)
20-29	3 (16.66)	3 (15.78)	6 (16.21)	1 (11.11)	2 (16.66)	3 (13.28)
30-39	4 (22.22)	7 (36.84)	11 (29.72)	2 (22.22)	2 (16.66)	4 (19.4)
40-49	8 (44.44)	6 (31.57)	14 (37.83)	2 (22.22)	3 (25)	5 (23.80)
50-59	2 (11.11)	3 (15.78)	5 (13.51)	1 (11.11)	4 (33.33)	5 (23.80)
≥ 60	1 (5.55)	0 (0)	1 (2.70)	3 (33.33)	1 (8.33)	4 (19.4)
Total	18 (100)	19 (100)	37 (100)	9 (100)	12 (100)	21 (100)

Discussion:

Tori of maxilla and mandible were detected as bony outgrowths slowly is growing at palatal midline and mandibular lingual aspect[9, 10]. A Jordanian study had been reported that no significant difference in the prevalence between male and female among Jordanian population 29.8% [11].The racial divergence or ethnic groups may cause the tori prevalence varies among studies[12, 13]. An Indian study showed torus prevalence being 9.5% in the palate and commonly occurred more in women in comparison to men[14]. Actually, no clear interpretation for such variance between sexes was identified, where genetics might propose being a fundamental contributing factor.

A significant finding of our study among this population was that TP (4.93 %) was more frequently seen than TM (2.8%).

Tori occurrence peak at third decade of life as mentioned by other observations[15, 16], our investigation illustrate the occurrence peak for both tori at fifth decade of life. With age, tori prevalence starts to increase until reaching the peak at 40-49 years old. After that the occurrence of both tori trend to decrease over the 50 year old, this is agreed with the findings of many authors[16, 17, 18]. Functional factors affect this variation, after teeth extraction the torus palatinus regression noticed. Eggen and Natvig[19] showed same findings in Norwegians and summarized that prevalence decreased over the fifty years was attributed to remaining teeth numbers decrease, and also they associated the high TM prevalence with increasing the stress of mastication. Both tori was more common in female (8.37 %) as compared to male (7.1 %)

Conclusion:

a. More occurrence of tori in female compared to male.
b. Both tori prevalence is low at such region, and prevalence of TP is higher than the prevalence of TM.
c. The incidence to tori increased with age up to 50 years old.

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