

## Prevalence of Non-specific Oro-facial Lesions in Leprosy

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**Abstracts:** leprosy is a chronic bacterial infectious disease affecting major population especially in low socio economic group, commonly affecting the peripheral nerves and skin. This disease causes various amounts of morbidity that hampers the oral hygiene maintenance. Incidence of nonspecific orofacial lesions increases over a period of time. **Aim:** to evaluate the various nonspecific orofacial soft tissue lesions in the leprosy. **Method and Material:** 50 diagnosed cases of leprosy were selected randomly from government leprosy hospital, bengaluru and they are divided into two groups based on duration of hospitalization. The oral hygiene was checked for all the selected cases and the orofacial examination is conducted. **Results:** out of 50 cases, 31 have the orofacial lesions. The lesions are more prevalent in group 2 than in group 1. Nonspecific oral lesions were more common than the facial lesions. Only 4 cases have the facial lesions as compared to the 27 cases of the oral lesions. **Conclusion:** in leprosy, the oral lesions are more common than the facial lesions. It may due to inability of patients to maintain the oral hygiene. The incidence of these Lesions increases with duration of the disease. [Gouda S PS NJIRM 2014; 5(5):77-81]

**Key Words:** Leprosy, Oral hygiene, Orofacial lesions

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**Introduction:** Leprosy is a chronic bacterial infectious disease affecting major population especially in low socio economic group, commonly affecting the peripheral nerves and skin. Less often it involves the mucosa of the upper respiratory tract, mouth, reticuloendothelial system, eyes, bone, testes, liver, and kidney<sup>1</sup>.

The disease is caused by Mycobacterium Leprae. Gerhard Armauer Hansen discovered M. leprae in 1873 and hence it is also called as Hansen's disease. It was the first bacterium to be identified as a disease-causing agent in man, yet it remains as one of the disease that is least understood. It is prevalent in warm, wet areas in the tropics and subtropics.<sup>2</sup>

Worldwide, two to three million people are estimated to be permanently disabled because of leprosy, India reports over 50% of the world's leprosy cases<sup>3</sup>.

The disease is spread mostly by droplet infection and skin to skin contact. The important portal of exit and entry is the oronasal mucosa. In hot and humid atmospheres, the lepra bacilli may remain alive outside the body up to 1 week or more<sup>2</sup>.

The Clinical manifestations of the disease show wide variation depending on the type of leprosy. The variable status of host cell-mediated immunity

is reflected in the different clinical types of leprosy. When there is relatively good immunity, but not enough to eliminate the infection, a localized form of the disease is manifested and this is known as the tuberculoid type of leprosy (TT). On the other hand, when the host's cell-mediated immunity is deficient, a generalized form of the disease, lepromatous leprosy (LL), develops. In between these two polar varieties of the disease occurs<sup>4</sup>,

This disease causes various amounts of morbidity that hampers the oral hygiene maintenance. Commonly encountered orofacial lesions in this disease are fissured tongue, inflammatory papillary hyperplasia, chronic atrophic candidiasis, fibromas, erythematous candidiasis and traumatic ulcerations<sup>5</sup>. So this present study has been designed with a aim to evaluate the various non-specific Orofacial lesions in the leprosy patients with review of literature.

**Methodology:** 50 diagnosed cases of leprosy from Government leprosy hospital, Bengaluru are included regardless the type of leprosy, whether disease has been arrested earlier by MDT or whether MDT was in progress.

*Based on duration of hospitalization patients are divided in to two groups:*

**GROUP 1-** patients being residents for a short period of time {less than 1 month}

**GROUP 2-** patient being resident for long period of time.{More than 1 month}Consent from the patients and ethical clearance were obtained.

The parameters like age, gender, type and duration of leprosy, period of hospitalization, type of anti leprotic therapy, Period since negative bacillary smear are recorded. The oral hygiene was checked by SILNESS and LOE Plaque index for all the selected cases and the facial and oral examination is carried out for soft tissue lesions and are recorded.

**Results:** The leprosy patients are divided in to 2 groups based on duration of hospital stay and the thorough examination of the orofacial region was carried out in both groups.

Of 50 cases, the orofacial lesions reported in 31 cases, of which 4 cases have the facial lesions and 27 cases have the oral lesions.[Table 1, Graph I&II] In group 1, one case with extra oral nodular lesion [fig1] and two cases have reported with fissure tongue[fig3] and in group 2, twenty five cases have the oral lesions, of which fissure tongue is noted nine cases, traumatic ulcer noted in seven cases[fig4], atrophic candidiasis in five cases[fig5], fibroma in four cases[fig6] and the extra oral lesions in three cases. Two cases have nodular lesion and in one case hyper pigmented maculae [fig2]. [Table 2 &3]. The fissure tongue is more common oral lesion in either group.

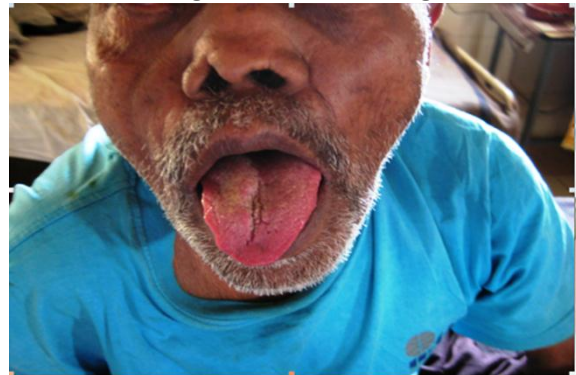
**Figure1: Nodular lesion**



**Figure2: Hyper Pigmented Lesion**



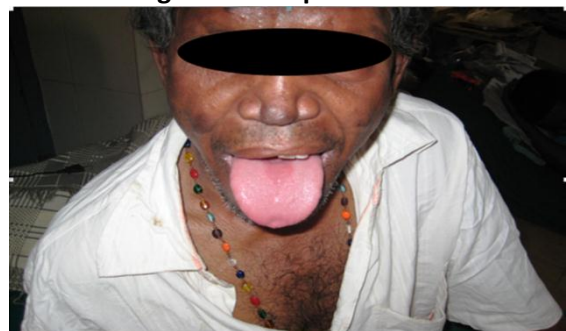
**Figure 3: Fissure Tongue**



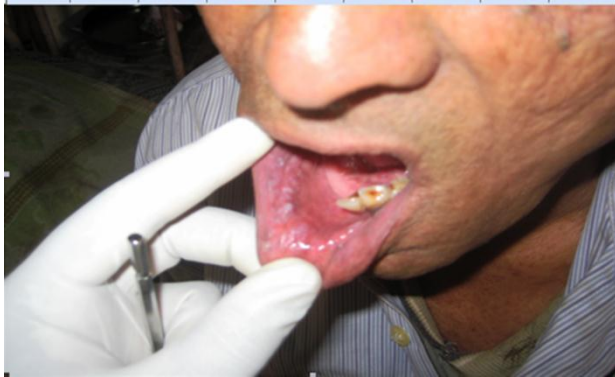
**Figure 4: Traumatic Ulcer**



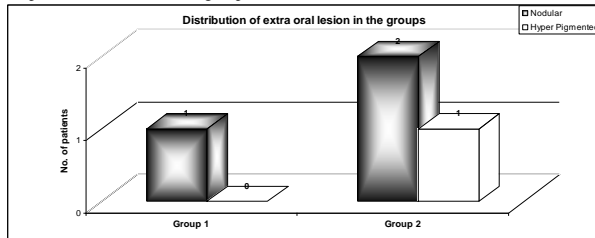
**Figure 5: Atrophic Candidiasis**



**Figure 6: Irritational Fibroma**



Graph 1 Extra oral lesions in group 1 and 2



Graph II Intra Oral lesions in group 1 and 2

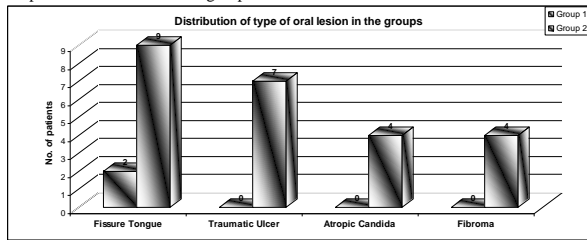


Table 1. Distribution of lesions:

Lesion	n	%
Present	31	62.00
Absent	19	38.00
Total	50	100

Table 2 Distribution of extra-oral lesions in the groups:

Extra Oral Lesion	n	%
Group 1	1	25.00
Group 2	3	75.00
Total	4	100

Table 3 Distribution of type of intra-oral lesions in the groups:

Intra Oral lesion	Group 1		Group 2	
	n	%	n	%
Fissure Tongue	2	100.00	9	37.50
Traumatic Ulcer	0	0.00	7	29.17
Atrophic Candida	0	0.00	5	20.67
Fibroma	0	0.00	4	16.67
Total	2	100	25	100

**Discussion:** Leprosy is a disease of the poor and underprivileged population which has invaded the whole world with variable incidence. Highest incidence of leprosy is seen in the developing countries. The word *leprosy* derived from the ancient Greek words *lepros*, a scale, and *lepein*, to peel. Leprosy is a chronic infectious disease commonly affecting the peripheral nerves and skin.<sup>3</sup> Stanley Brown stated that 'in no other disease do social and psychological factors loom so large as in leprosy'.<sup>6</sup> This disease causes variable amount of morbidity affecting the fingers which makes it difficult or highly impossible to maintain oral and personal hygiene. In the present study, this is true as the Schillnes and Loe hygiene index scores shows poor oral hygiene in the leprosy patients and is in agreement with the previous study by Nunez-Marti JM, Baqan JV, scully C, where it was found that poor dental and periodontal health in these patients was unrelated to the presence of facial destruction or type of leprosy.<sup>7</sup>

Leprosy involving the oral cavity has long been noted and it causes various lesions involving oral mucosa and recently various newer mucosal lesions occurring with higher frequency have being reported.<sup>8,9, 10,11</sup>

Various studies were undertaken regarding the occurrence of orofacial lesions in both active and inactive leprosy cases and the studies have shown that occurrence of orofacial lesions are uncommon in leprosy but when present usually occurs in advance stage of lepromatous leprosy, suggesting a hematogenous or lymphatic dissemination.<sup>9</sup>

Another possibility of occurrence of oral lesions is in continuity with nasal lesions and nasal lesions possibly being precursors of oral lesions. The facial lesions in leprosy are less common than oral lesions and appear as hyper or hypopigmented macules, nodules etc.<sup>12</sup> In the present study 4 cases show facial lesions. In group 1, one nodular lesion and in group 2, two nodular lesions and one hyperpigmented lesion are noted. In a cross sectional study with review of literature by Rawalani SM, Gummadapu S, Motwani M in treated central Indian leprosy patients, 64 patients have hypopigmented macules along with oral lesions out of 160.<sup>13</sup> The oral lesions in leprosy

may be specific or non-specific of the disease. The specific oral lesions are rare and they appear as non-specific nodules or ulcers. The leprosy related - lesions occur most commonly on the hard palate, soft palate, upper vestibular gingival, tongue, lips, gingival palate, lower gingival and oral mucosa in descending manner<sup>14</sup>. The occurrence of leprosy related oral lesions are reduced considerably after introduction of multidrug therapy<sup>13</sup>.

In this present study, there are 4 active cases that are under MDT, none of these show leprosy related lesions. This may be probably due to the response to the multidrug therapy as previously observed by Martin MD et al in their study they observed that leprosy related lesions are not present in patients who are undergoing multidrug therapy.<sup>13</sup>The incidence of non-specific oral lesions has increased and many recent studies have shown that these lesions are present in burnt out disease of leprosy and these lesions are commonly seen on the tongue and palate. In one of the studies, it has been shown that out of 100 patients, 71 have exhibited non-specific oral lesions and most frequent of these lesions were the fissure tongue (18 cases),inflammatory papillary hyperplasia(16 cases),chronic atrophic candidiasis (10 cases), fibroma (10 cases), erythematous candidiasis (8 cases), and traumatic ulceration (7 cases). Another study revealed the tongue abnormalities as a common finding, with fissured tongue being the commonest feature as similar to previous study<sup>5,13</sup>. In the present study, out of 50 cases, 27 cases show non-specific oral lesions with highest frequency involving the tongue. In our study, fissured tongue seen in 11 cases, traumatic ulceration in 7 cases, atrophic candidiasis in 5 cases and fibroma in 4 cases. Most of these lesions were observed in group 2 and this may be due to long institutional stay (n=34 ) and poor oral hygiene because of mutilated fingers which creates difficulty in maintaining oral hygiene. In group1, only two cases have oral lesions. This may be due short hospital stay and ability to perform oral hygiene. This shows that the duration of hospital stay associated with poor oral hygiene and the occurrence of non-specific oral lesions in these patients.

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Abbreviations ; MDT – Multi drug therapy

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