



Original Research

Gutka Facies in Oral Submucous Fibrosis – A Cross Sectional Study in Chennai

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Abstract

Introduction: “Gutka facies” is characteristically seen in patients with oral submucous fibrosis, a chronic progressive scarring disease of the oral mucosa which is recognized as a potentially malignant disorder

Aim: To estimate the prevalence of characteristic facial features in patients with oral submucous fibrosis and to correlate the appearance of the facies with the duration and frequency of Gutka usage.

Materials and Methods: A hospital based cross sectional study was carried out among 75 outpatients with clinically diagnosed Oral submucous fibrosis. The patients were divided into different groups based on age, frequency and duration of chewing habit. The facial features of the cheeks, lips, nasolabial folds, malar prominence and massetric hypertrophy were recorded. Statistical analysis was performed using SPSS Software version 16.0 Simple descriptive statistics and Pearson chi square test were used to describe the data

Results: Sunken cheeks was the most common extra-oral manifestation of Oral submucous fibrosis seen in 42 cases (56%), followed by prominence of the masseter (28%), exaggerated malar prominence (9.33%) and thinning of the lips (6.67%) Sunken cheeks and thinning of lips showed a statistically significant difference among the different age groups. Massetric hypertrophy and malar prominence showed a statistically significant difference among different groups based on duration and frequency of the chewing habit respectively.

Conclusion: The constellation of facial features referred to as “Gutka Facies” could help in identification of Oral submucous fibrosis by the primary care physicians. Early detection and prompt intervention could help reduce the morbidity and mortality associated with this disease.

Keywords: Gutka Facies, Oral submucous fibrosis, Sunken cheeks.

INTRODUCTION

In medical practice, often the first indication of a disease could come from a patient's face. "Facies" refers to a set of distinctive facial features which could be specific for a particular disease. Some of the well known facies in medical literature include "mask like facies" in Parkinsonism, the "leonine facies" in lepromatous leprosy, "bird like facies" in Pierre Robin sequence, "adenoid facies" seen in adenoid hypertrophy and "marfanoid facies" seen in Marfan syndrome. To this list, we may include the "Gutka facies" which is characteristically seen in patients with oral submucous fibrosis due to habitual Gutka or areca nut chewing. The term "Gutka facies" was first proposed by P.Chaturvedi et al in 2009⁽¹⁾

Oral Submucous Fibrosis is a chronic progressive scarring disease of the oral mucosa which is recognized as a potentially malignant disorder⁽²⁾. Oral submucous fibrosis occurs predominantly among Indians and to lesser extent in other Asians⁽³⁾. Therefore studies pertaining to Oral submucous fibrosis are warranted from the researchers in the Indian subcontinent. The clinical features of oral submucous fibrosis have been sufficiently characterized over the years. The predominant symptoms include burning sensation in the oral mucosa, intolerance to hot and spicy foods, restriction of mouth opening, difficulty in swallowing(due to fibrosis in esophagus) and hearing loss(fibrosis around the opening of the Eustachian tube) The clinical signs include marble like blanching of the oral mucosa with the pathognomonic palpable fibrous bands involving the buccal mucosa and/or the labial mucosa, tongue, soft palate⁽⁴⁾. The facial features of oral submucous fibrosis however have not been studied in detail. To our knowledge, ours is the first study in literature to report the prevalence of Gutka facies in Oral submucous fibrosis. Several studies have shown the association between the use of smokeless tobacco products including Panparag, Gutka, Mawa etc with the development of oral submucous fibrosis⁽⁵⁾. It is believed that the alkaloids in these areca nut

products promote fibrosis in the mucosa both by increasing collagen production by upregulating the fibroblast and by decreasing collagen degradation by cross linking of collagen⁽⁶⁾. There has been an alarming increase prevalence of oral submucous fibrosis among teenagers and young adults in recent years leading to significant morbidity, loss of productivity and oral cancer related mortality⁽⁷⁾. This could be attributed to the increasing use of refined areca nut products like Pan masala, Gutka, Mawa etc. Gutka is particularly popular because of its non messy smokeless nature, easy availability and erroneous perception as a mouth freshener.

The identification of the Gutka facies by the primary care physicians could help in early detection and prompt management of this potentially malignant disorder. Characterization of Gutka facies would also help to narrow down the potential subjects in large epidemiological screening surveys in the urban and rural areas. This study was undertaken to estimate the prevalence of characteristic facial features in patients with oral submucous fibrosis and to correlate the appearance of the facies with the duration and frequency of Gutka usage.

MATERIALS AND METHODS

A hospital based cross sectional study was carried out among the outpatients attending a teaching hospital. 75 patients with clinically diagnosed oral submucous fibrosis were included in the study. Inclusion criteria was,

1. Age over 18 years
2. History of habitual use of Gutka for more than 6 months
3. Presence of palpable fibrous bands in the oral mucosa

A written informed consent was obtained from all the participants in the study. Ethical clearance was obtained from the institutional ethics committee. Exclusion criteria were,

1. Patients with history of surgical procedures in the orofacial region

2. Patients with history of radiation therapy in head and neck region
3. Patients with history of other systemic diseases

All the subjects were examined clinically and the presence or absence of the following facial features were recorded

1. Lips : Normal/ thinning
2. Cheeks: Normal/ sunken
3. Eyes: Normal/ Pseudo-proptosis
4. Malar prominence : Normal/ exaggerated
5. Masseter : Normal/prominent
6. Nasolabial fold : single/ multiple

The sample was divided into three groups according to their age as follows,

1. Group 1: 20-30 years
2. Group 2: 31-40 years
3. Group 3: 41-50 years

The sample was divided into three categories based on the frequency of usage of chewing agents as follows,

1. Category 1: 1-5 packets/day
2. Category 2: 6-10 packets/day
3. Category 3: more than 10 packets/day

The sample was divided into three subgroups based on the duration of the chewing habits as follows,

1. Subgroup 1: 1-10 years
2. Subgroup 2: 11-20 years
3. Subgroup 3: 21-30 years

Statistical analysis was performed using SPSS Software version 16.0 (IBM, Chicago, IL). Simple descriptive statistics like mean, standard deviation and percentages were used to describe the data collected. Pearson chi square test was performed to assess the statistically significant difference in the facial features of Oral submucous fibrosis among the different groups with the confidence interval of 95%. P value less than 0.05% was considered to be statistically significant.

RESULTS

The mean age group of our sample was 31.47 ± 8.16 years. 40 subjects (53.3%) were in age group of 18-30 years, 21 subjects (28%) were in age

group of 31-40 years and 14 subjects (18.7%) were more than 40 years of age. All the subjects in our sample were male patients. The mean frequency of Gutka chewing was 5.65 ± 5.06 packets per day. 51 subjects (68%) chewed 1-5 packets per day, 14 subjects (18.7%) chewed 6-10 packets per day and 10 subjects (13.3%) chewed more than 10 packets per day. The mean duration of the chewing habit was 6.61 ± 5.63 years. 67 subjects (89.3%) had the habit for 1-10 years, 6 subjects (8%) had the habit for 11-20 years and 2 subjects (2.7%) had the habit for more than 20 years.

Sunken cheeks were the most common extra-oral manifestation of Oral submucous fibrosis (Figure 1 and 2) seen in 42 cases (56%). There was a statistically significant difference in prevalence of sunken cheeks in oral submucous fibrosis among different age groups ($p=0.033$). Neither the frequency of chewing ($p=0.867$) nor the duration of the chewing habit ($p=0.112$) showed a statistically significant association with prevalence of sunken cheeks.

Masseteric hypertrophy (Figure 2) as evidenced by prominence in angle of mandible was seen in 21 cases (28%). There was statistically significant difference in the prevalence of masseteric hypertrophy in oral submucous fibrosis among different groups, classified on the basis of duration of chewing habits ($p=0.004$). Neither the frequency of chewing ($p=0.691$) nor the age groups ($p=0.202$) showed a statistically significant association with prevalence of masseteric hypertrophy.

Exaggerated malar prominence (Figure 2) was seen in 7 cases (9.33%). There was statistically significant difference in prevalence of exaggerated malar prominence in oral submucous fibrosis among different groups, classified on the basis of frequency of chewing habits ($p=0.019$). Neither the age groups ($p=0.951$) nor the duration of the chewing habit ($p=0.741$) showed a statistically significant association with prevalence of exaggerated malar prominence.

Thinning of the lips was seen in 5 cases (6.67%). There was statistically significant difference in

prevalence of thinning of lips in oral submucous fibrosis among different age groups ($p=0.046$). Neither the frequency of chewing ($p=0.050$) nor the duration of the chewing habit ($p=0.560$) showed a statistically significant association with prevalence of thinning of lips.

Multiple shallow nasolabial folds were seen in 4 cases (5.33%). There was a statistically significant difference in prevalence of multiple shallow nasolabial folds in oral submucous fibrosis among different groups, classified on the basis of frequency of chewing habits ($p=0.009$). Neither the age group ($p=0.439$) nor the duration of the chewing habit ($p=0.420$) showed a statistically significant association with prevalence of multiple shallow nasolabial folds.

Pseudo-proptosis (appearance of bulged eyeballs) was the least common finding seen in just one case (1.33%). There was no statistically significant difference in prevalence of pseudoproptosis of eyes in oral submucous fibrosis among different age groups ($p=0.642$). Neither the frequency ($p=0.788$) nor the duration of the chewing habit ($p=0.941$) showed a statistically significant association with prevalence of exaggerated malar prominence.

CAPTIONS TO ILLUSTRATIONS

Figure 1: Frontal view of Gutka facies showing sunken cheeks (white arrow)



Figure 2: Lateral view of the Gutka facies showing Masseteric hypertrophy (white arrow), Exaggerated malar prominence (blue arrow) and sunken cheeks (yellow arrow)



DISCUSSION

The facial/extra oral features of oral submucous fibrosis was first proposed by Chaturvedi P et al who coined the term Gutka syndrome or Areca nut chewer's syndrome ⁽¹⁾. He suggested that this chewer's face can include features like sunken and stiff cheeks due to loss of facial and buccal fat, pseudoproptosis due to loss of periocular fat and pseudo malar prominence due to loss of subcutaneous fat ⁽⁸⁾.

The mean age of our sample in the early thirties indicates the rising prevalence of Oral submucous fibrosis in younger age groups with an expected malignant transformation at a much earlier age, contrary to the popular belief that Carcinoma is a disease of the old age.

Almost more than half of the patients in our study chewed 1-5 packets of Gutka per day and close to 90% of the patients in our study had the habit of chewing for less than 10 years. These observations indicate that Oral submucous fibrosis affects individuals with Gutka chewing habit irrespective of frequency or duration of the chewing habit.

The most common facial feature that we observed in our sample of Oral submucous fibrosis patients was sunken cheeks. Many investigators believed that sunken cheeks result from fibrosis of buccal mucosa and loss of adipose tissue, possibly due to

the role of transforming growth factor β (TGF β) which plays key role in causing lipodystrophy (9). Sunken cheeks, not commensurate with age or nutritional status have been reported by Pindborg et al⁽¹⁰⁾. The cheeks appear sunken probably also as a result of malnutrition which leads to loss of buccal and facial fat⁽¹⁾. It is also possible that as fibrosis extends into the deeper layers, the soft tissues become stiff and taut leading to the loss of normal suppleness giving the cheeks a sunken look.

The second most common manifestation was masseteric hypertrophy which was demonstrable clinically as unilateral or bilateral prominence of the mandibular angle, with the masseter muscle becoming more prominent to palpation while clenching. Several studies have shown that masseter muscle thickness as measured ultrasonographically was much higher in both relaxed and contracted state in Oral submucous fibrosis patients as compared to controls and could represent increased functional demand on masseter muscle because of habitual Gutka chewing⁽¹¹⁾. It has been shown that Masseter Muscle thickness increases as the duration and frequency of the habit increase⁽¹²⁾.

Thick inelastic circumoral fibrous bands around the entire circle of lips could result in thinning of lips and narrowing of rima oris leading to difficulty in mouth opening⁽¹³⁾. The other findings of exaggerated malar prominence, multiple shallow nasolabial folds and Pseudo-proptosis (appearance of bulged eyeballs) were relatively uncommon in our series, but nevertheless we believe that when these features are present together in a patient without concomitant systemic disorders, the diagnosis of Gutkafacies is highly likely.

CONCLUSION

Oral Submucous fibrosis, a relatively common potentially malignant disorder in Indian subcontinent, is of considerable interest to primary care physicians. Early detection and prompt intervention could help reduce the morbidity and

mortality associated with this disease. Although the presence of intraoral fibrous bands are pathognomonic of this disease, the constellation of facial features referred to as "Gutka Facies" could help in identification of these patients even before performing an oral examination. Sunken cheeks, masseteric hypertrophy, exaggerated malar prominence, thinning of lips and multiple shallow nasolabial folds are the common features seen in Gutka Facies. In our study we have attempted to determine the prevalence of each of these features. Further studies involving larger samples with appropriate age stratification are necessary to validate the results of our study.

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Conflict of interest – None

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