

PROPOSED CLINICO-PATHOLOGICAL CLASSIFICATION OF OSMF DEPENDING ON REVIEW OF DIFFERENT CLASSIFICATION SYSTEMS (1966 – 2015)

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ABSTRACT

Oral submucous fibrosis (OSMF) is an insidious chronic scarring disease of the oral cavity and occasionally affects the pharynx. Knowing the clinical and histopathological features of OSMF helps the patients in giving the better prognosis. As there are several classifications published in the literature based on the clinical and histopathological features, here we have taken a chance to put all the classifications under one roof which would be easy for the post graduates, clinicians, surgeons and pathologists in revising this lesion. We had even attempted a newer classification for OSMF which is the mixture of the other classifications and is important as it would give the gist of all other classifications published in the literature.

KEYWORDS: OSMF, Clinico-Pathological, Scarring Disease

INTRODUCTION

Oral submucous fibrosis is a chronic insidious disease affecting any part of the oral cavity and also pharynx, although occasionally preceded or associated with vesicle formation, but always associated with juxtaepithelial hyalinization and infiltration of lymphocytes, which leads to limited mouth opening and trismus (1). They are most common initial symptoms of Oral submucosis fibrosis are burning sensation of oral mucosa aggravated by spicy food, followed by either hypersalivation or xerostomia.

Oral submucous fibrosis (OSF), has one of the highest rates of malignant transformation amongst potentially malignant oral lesions and conditions. The condition was termed as idiopathic scleroderma of mouth, idiopathic palatal fibrosis and sclerosing stomatitis. Pindborg & Sirsat in the year 1966, described it initially. This condition occurs most commonly in Indians due to severe habits, when compared with Asian Indians.

**FLOW CHART ON DIFFERENT CLASSIFICATIONS PROPOSED BY DIFFERENT AUTHORS ON ORAL
SUBMUCOUS FIBROSIS**

I. YEAR

1957(2)



AUTHOR

JV Desa et al.



Categorised depending on

1. Stage 2. Stage 3. Stage



Criteria

Depending on stomatitis, vesiculation, fibrosis

II. YEAR (3)

1966



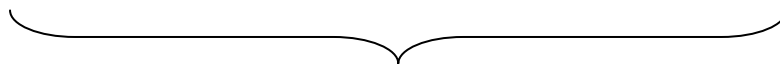
AUTHOR

Pindborg J. J & Sirsat. M



Categorised on histopathological aspect

1. Very Early Stage 2. Early Stage 3. Moderately Advanced Stage 4. Advanced Stage



Criteria

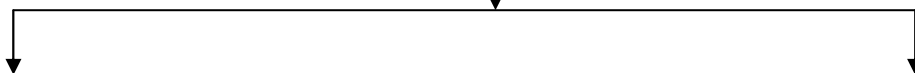
Depending on collagen hyalinization, inflammatory cell infiltrate

III. YEAR

1971



AUTHOR



Ahuja SS and Agarwal(4)



Categorised

Depending on Extent and

Type of Fibrosis

Class 1 to Class 3



Criteria

Depending on extent of bands,
Involved structures in oral cavity
Generalized or localized

Bhatt AP and Dholaksha(5)



Categorised on

Grade 1 to Grade 3



Criteria

Limit of mouth opening,
extent of bands
associated structure

IV. YEAR (6)

1980



AUTHOR

Gupta DS et al.



Categorised based as per the increasing intensity of trismus

1. Very Early Stage 2. Early Stage



Criteria

Depend on burning sensation, limit of mouth opening and ulcerations.

V. YEAR (7)

1989



AUTHOR

Pindborg JJ et al.



Categorised based on OSMF in to 3 stages

Stage 1 to Stage 3



Criteria

Depending on stomatitis involved sites in oral cavity, fibrosis, pigmentation and petechiae.

Leukoplakia is involved in almost more than 25% of persons with OSMF.

VI. YEAR (8)

1992



AUTHOR

SK Kathsiia et. al.



Categorised on scores assigned based on mouth opening

Score 0 to Score 10



Criteria

Depending on measurement of mouth opening from 41mm to 0-04mm

VII. YEAR (7)

1995



AUTHOR

Lai Dr et al.



Categorised based on inter incisial distance

GroupA to GroupD



Criteria

Depending on measurement from >35mm to <20mm

VIII. YEAR (9)

1995



AUTHOR

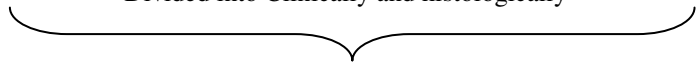
Khanna J.N and Andrade N.N.



Categorised on histopathological aspect

1. Very early cases 2. Early cases 3. Moderately advanced cases 4. Advanced cases

Divided into Clinically and histologically



Criteria

Clinically: 1. Burning sensation & associated with mouth opening limitation

2. Associated oral cavity structures

Histologically: Depending on hyalinization

Thickness of collagen bundles

Inflammatory infiltrate & rete pegs

Epithelium

IX. YEAR

1993



AUTHOR

Nagesh & Bailoor et al(6).

Racher SK(10)



Categorised

Depending on diagnosis

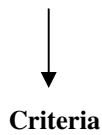
Stage 1 to stage 3



Categorised depending on

habits

Stage 1: stomatitis & Vesiculaation



Depending on blanching,
Limit of mouth opening, tongue protrusion
Lymphadenopathy & Hematology

Stage 2: fibrosis

Stage 3: sequel & complication

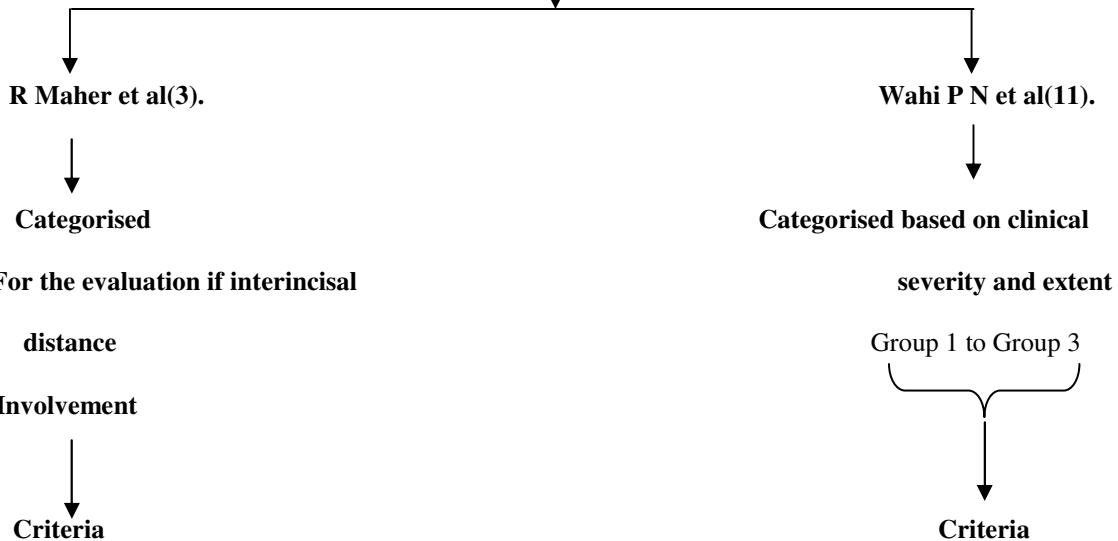


Stage1: recurrence, burning sensation, ulceration amount of fibrosis. Stage 2: Mouth opening, tongue protrusion, fibrosis, colour of lips and cheeks, Atrophy of papillae and blanching.
Stage3: leukoplakia, ulceration malignant lesion may be seen on involved sites, precancerous condition, atrophy of epithelium, epithelium undergoes more malignant changes.

X. YEAR

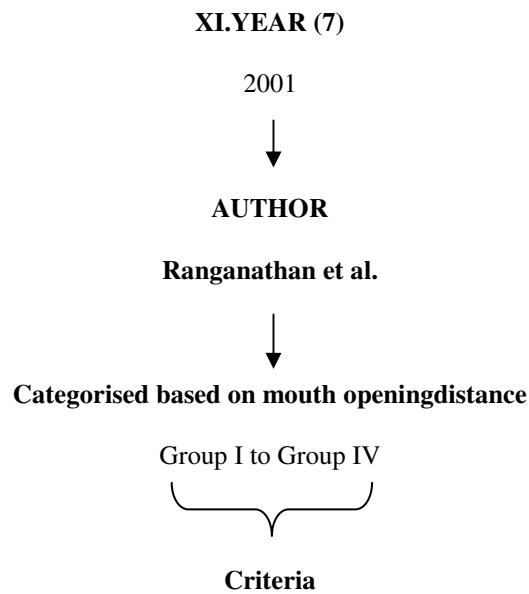
1996

AUTHOR

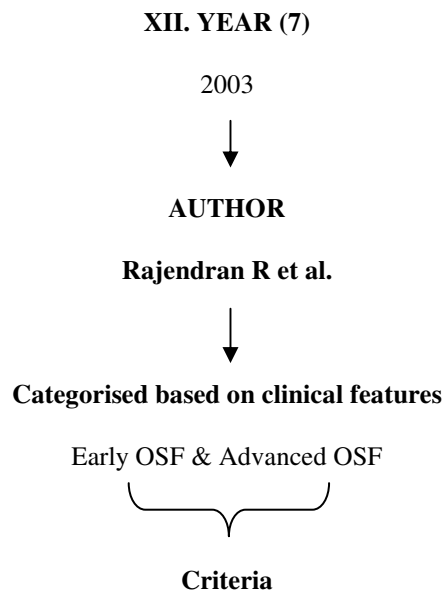


Depending on bands involvement 1/3rd,
1 to 2/3rd and more than 2/3rd.

Symptoms, discoloration, soreness,
Colour, involved sites, trismus,
Pronunciation. Firm bands surface
fissured or ulcerated



Depending on measurement from no demonstrable restriction, 20mm and above to less than 20mm and advanced with limited mouth opening. Precancerous or cancerous changes throughout mucosa.



Burning sensation, blisters on palate, ulcerations or recurrence of inflammation, blanching, fibrous bands running direction, sites involved palate and faucial pillars, limit of mouth opening, tongue movement, sialorrhoea, defective taste sensation and xerostomia.

XIII. YEAR (7, 12)



AUTHOR

Utsonumiya. H et al

**Categorised on histopathological aspect**

1. Early stage 2. Intermediate stage 3. Advanced stage

**Criteria**

Depending on zone hyalinization, myxoedematous changes, inflammatory cells seen in which layer

XIV. YEAR (13)

2007

**AUTHOR**

Kumar K. Et al

**Categorised on histopathological aspect**

1. Grade 1 2. Grade 2 3. Grade 3

**Criteria**

Thickness of fibers and hyalinization

Proposed Clinico-Pathological classification of OSMF depending on review of different classification systems (1966 – 2015)

Stage I: Clinically: Patients complain of burning sensation and altered taste perception. Opening of mouth can be scored as 36mm to 40mm. When related to buccal mucosa symptoms are not present.

Histopathologically: Collagen fibres are finely spread with noticeable edema with huge sum of plump young fibroblasts along with abundant cytoplasm. In the connective tissue stroma inflammatory cells composed mainly of lymphocytes and eosinophils. Rarely, we see eosinophils. Overlying epithelium is normal.

Stage II: Clinically: Patient complains of burning sensation, increased sensitivity to spicy food, white bands like lesions can be seen on any one anatomical site in the oral cavity. Mouth opening can be scored as 32mm to 36mm.

Histopathologically: Collagen is still separate and thick with separate bundles. Juxta epithelial hyalinization is

present. It contains young fibroblasts in moderate count. They contain dilated blood vessels. Inflammatory cells consist of lymphocytes and few eosinophils. They rarely contain plasma cells. The epithelium shows flattening or shortened epithelial rete pegs. They are evident with varying degree of keratinisation.

Stage III: Clinically: Patient complains of severe burning sensation, when they take hot or spicy food. Extensive fibrous white bands on the buccal mucosa can be palpated. There feel difficulty in mastication. Mouth opening can be scored 28mm to 32mm. Where patients cannot open mouth more than two fingers of his own.

Histopathologically: Thick collagen bundles separated by slight edema. Juxta epithelial hyalinization is present. Connective tissue stroma consists of conjugated blood vessels, mature fibroblasts, scanty cytoplasm and spindle shaped nuclei. Inflammatory cells are mainly neutrophils and plasma cells. Muscle fibers are thick and collagen fibers are dense. The epithelium is atrophic with loss of rete pegs.

Stage IV: Clinically: Patient is anemic and malnourished due to poor nutrition due to inability to open mouth. Severe trismus, with fibrous white bands extending all mouth over the prominent anatomical sites. Mouth opening can be scored as less than 10mm.

Histopathologically: Complete hyalinised collagen is present. This collagen is in the form of smooth sheets. Edema is not present in this stage. Fibroblasts are absent. Connective tissue stroma consists of blood vessels which are destroyed or restricted. Inflammatory cells are lymphocytes and plasma cells. They also shows mild to moderate atypia and severe degeneration of muscle fibers.

CONCLUSIONS

We have sincerely made an attempt in classifying the OSMF along with the other classifications. This is an important step which would help the budding post graduates, clinicians, pathologists and surgeons in revising the lesion (OSMF) under one roof which would also help in the prognosis of the patients after the treatment.

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