

A Study on Trismus amongst Carcinoma Oral Cavity Patients Receiving Radiotherapy and Its Impact on Quality Of Life of Such Patients

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Abstract: Trismus significantly impacts activities of daily living as well as vital oral function; it is associated with speech problems, difficulty in eating or drinking, malnutrition, dehydration, difficulty with oral hygiene, and lower quality of life. This study was aimed at studying the severity of trismus in oral carcinoma patients receiving radiotherapy, its impact on quality of life in such patients and to identify contributing risk factors and their prevention. A prospective study was carried out in Department of Otorhinolaryngology, Silchar Medical College and Hospital, Silchar during a period of one and half year. Patients with newly diagnosed squamous cell carcinoma of oral cavity irrespective of age and sex were included in the study. Baseline Maximal interincisal opening was measured at the time of diagnosis, after completion of radiotherapy, 3 months after radiotherapy and 6 months after radiotherapy. Quality of life was assessed using EORTC- QLQ H&N35 and CTCAEv4.0 was used for grading of trismus. A total of 40 patients were analysed during the study period. Maximal interincisal opening was significantly lower after completion of radiotherapy. Patients starting rehabilitative exercises soon had better Maximal Interincisal Opening than others. Higher grades of trismus lead to poorer Quality of Life among carcinoma oral cavity patients. Hence we concluded that there is significant decrease in mouth opening following teletherapy with Co₆₀ in carcinoma oral cavity patients. Trismus adds significantly to the morbidities of carcinoma oral cavity patients. Rehabilitative measures should be explained and made to follow at earliest to prevent developing higher grades of trismus following radiotherapy.

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I. Introduction

Radiotherapy (RT) plays a major role in the multidisciplinary management of head and neck squamous cell carcinoma (HNSCC). One of the common late toxicities of RT is trismus, which seriously affects the nutrition and quality of life (QOL) of the patients. Oral cancer is becoming a global health concern. It accounts for over 30% of all cancers in India with a rate of 20 per 100,000 population. Trismus in oral cancer is defined as a tonic contraction of the muscles of mastication resulting from any abnormal condition or disease with mouth opening of <35 mm. It may be a result of tumour growth, infection, surgery or radiation. It causes a detrimental impact on quality of life and function and should be a focus in the management of patients with oral cancer.

II. Aim And Objectives

To study the severity of trismus among carcinoma oral cavity patients receiving radiotherapy as primary, adjuvant or concurrent modality of treatment.

To assess its impact on quality of life in such patients.

To identify contributing risk factors and their prevention.

III. Materials And Methods

A prospective study was carried out in Department of Otorhinolaryngology, Silchar Medical College and Hospital, Silchar during a period of one year.

Patients with newly diagnosed squamous cell carcinoma of oral cavity irrespective of age and sex were included in the study.

Patients not complying to the treatment regime and those lost to follow up were excluded from the study.

Baseline Maximal Interincisal opening was measured at the time of diagnosis, after completion of radiotherapy, 3 months after radiotherapy and 6 months after radiotherapy.

Grading of trismus was done using NCI Common Terminology Criteria for Adverse Events v4.0 (CTCAEv4.0). QOL assessment made for every patient using European Organization for Research and Treatment of Cancer QOL questionnaire head and neck cancer module (EORTC QLQ- HN35) at the end of 6 months. Results were analysed using standard statistical tests, p-value of <0.05 was considered significant.

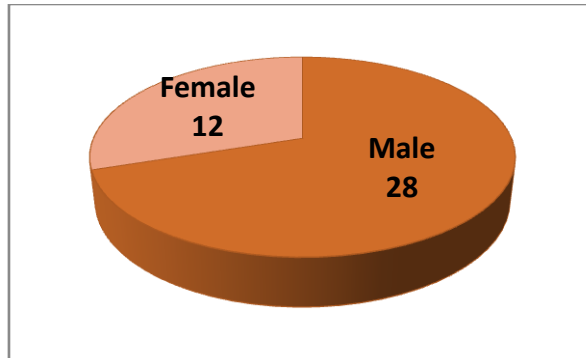
IV. Results

A total of 40 patients were included in the study as per the inclusion and exclusion criteria.

Demographic characteristics

Mean age of presentation was 51.35 years (range = 25 to 80 years)

70% of them were males.

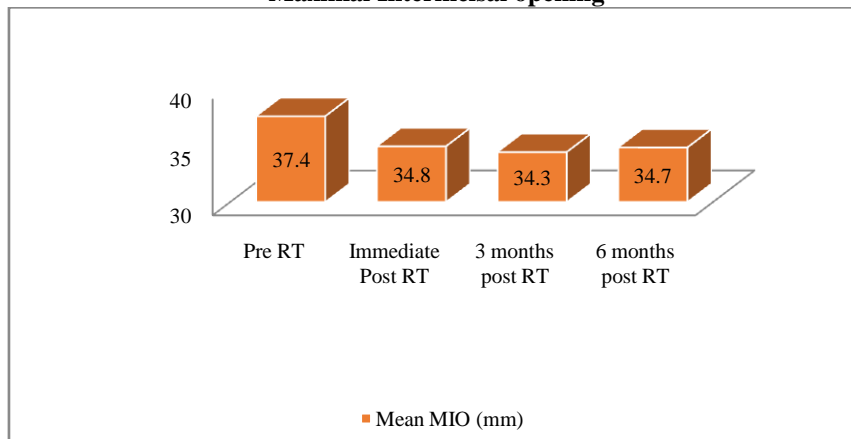


Tumor characteristics

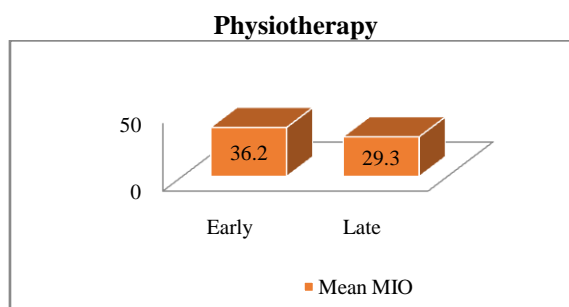
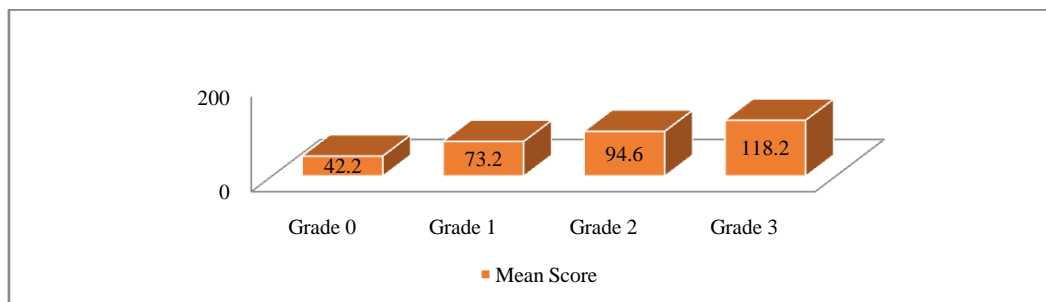
Site	Number
Lip & oral commissure	12
Gingivobuccal sulcus	9
Cheek	6
Retromolar trigone	6
Hard palate	4
Mandible	3

Stage	No. of patients
1	0
2	8
3	14
4	18

Maximal Interincisal opening



EORTC H&N35 QOL Score



V. Discussion

In the present study, we had a total of 40 patients as per the inclusion and exclusion criteria, out of which 28 were males and 12 females (M: F = 2.3:1).

Nagaraja et.al. in their study had 47 patients with mean age of 58 yrs and 81% of male patients.

Lee et.al. studied 104 patients with mean age of 54.8 years.

The pre radiotherapy baseline mean maximal interincisal opening was found to be 37.4mm which decreased to 34.8mm, 34.3mm, 34.7mm after completion of radiotherapy, at 3 months and 6 months post radiotherapy respectively.

Nagaraja et.al. in their study had a mean MIO of 37.3 mm.

Lee et al. reported Radiation induced trismus incidence rate of up to 42% that is comparable to the occurrence in our study.

The progression of trismus slows down from 6 months to 1 year as shown by Wang et al.

Mean QOL score in patients with grade 0 trismus was 42.2(better) while in grade 3 was 118.2(poorer).

Nagaraja et.al., Lee et al. and Pauli et al. also concluded that Radiation Induced Trismus negatively impacted QOL.

The mean MIO was 36.2 mm in patients following early rehabilitative measures as compared with 29.3 mm in patients who started with mouth opening exercises later. These results were similar to results documented by Nagaraja et.al., Bensadoun et al. and Lisette et al. that the early treatment of trismus had the potential to prevent or minimize the progression of trismus and thereby improving the QOL.

VI. Conclusion

There is significant decrease in mouth opening following teletherapy with Co⁶⁰ in carcinoma oral cavity patients. Trismus adds significantly to the morbidities of carcinoma oral cavity patients. Rehabilitative measures should be explained and made to follow at earliest to prevent developing higher grades of trismus following radiotherapy. However, further prospective studies on the effect of early rehabilitative measures with larger number of patients are necessary.

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Pictures



Trismus in a carcinoma buccal cavity patient receiving radiotherapy

EORTC QLQ - H&N35

Patients sometimes report that they have the following symptoms or problems. Please indicate the extent to which you have experienced these symptoms or problems during the past week. Please answer by circling the number that best applies to you.

During the past week:	Not at all	A little	Quite a bit	Very much
31. Have you had pain in your mouth?	1	2	3	4
32. Have you had pain in your jaw?	1	2	3	4
33. Have you had soreness in your mouth?	1	2	3	4
34. Have you had a painful throat?	1	2	3	4
35. Have you had problems swallowing liquids?	1	2	3	4
36. Have you had problems swallowing porous food?	1	2	3	4
37. Have you had problems swallowing solid food?	1	2	3	4
38. Have you choked when swallowing?	1	2	3	4
39. Have you had problems with your teeth?	1	2	3	4
40. Have you had problems opening your mouth wide?	1	2	3	4
41. Have you had a dry mouth?	1	2	3	4
42. Have you had sticky saliva?	1	2	3	4
43. Have you had problems with your sense of smell?	1	2	3	4
44. Have you had problems with your sense of taste?	1	2	3	4
45. Have you coughed?	1	2	3	4
46. Have you been hoarse?	1	2	3	4
47. Have you felt ill?	1	2	3	4
48. Has your appearance bothered you?	1	2	3	4

Please go on to the next page.

During the past week:	Not at all	A little	Quite a bit	Very much
49. Have you had trouble eating?	1	2	3	4
50. Have you had trouble eating in front of your family?	1	2	3	4
51. Have you had trouble eating in front of other people?	1	2	3	4
52. Have you had trouble enjoying your meals?	1	2	3	4
53. Have you had trouble talking to other people?	1	2	3	4
54. Have you had trouble talking on the telephone?	1	2	3	4
55. Have you had trouble having social contact with your family?	1	2	3	4
56. Have you had trouble having social contact with friends?	1	2	3	4
57. Have you had trouble going out in public?	1	2	3	4
58. Have you had trouble having physical contact with family or friends?	1	2	3	4
59. Have you felt less interest in sex?	1	2	3	4
60. Have you felt less sexual enjoyment?	1	2	3	4

During the past week:	No	Yes
61. Have you used pain-killers?	1	2
62. Have you taken any nutritional supplements (excluding vitamins)?	1	2
63. Have you used a feeding tube?	1	2
64. Have you lost weight?	1	2
65. Have you gained weight?	1	2

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EORTC Quality of Life Questionnaire

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