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## Role of kali cyanatum 30C in improving post radiation oral mucositis in cases of oral squamous cell carcinoma (Pilot Study)

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#### **Abstract**

**Aim:** To assess the Role of homeopathic medicine Kali Cyanatum 30C in improving post radiation oral mucositis in cases of oral squamous cell carcinoma.

**Study design:** Double arm Prospective study had been conducted with 30 cases of post radiation oral mucositis. Cases were divided in two groups. Each group consisted of 15 subjects. Group A was treated with homeopathic medicine Kali Cyanatum 30C for 12 weeks while group B was given standard treatment. Results were evaluated using clinical examination and photographic records.

**Results:** After one month, in the treatment group 4 out of 10 grade IV patients became grade 1 while only 1 remained grade IV. After 60 days all grade IV became either grade I or grade 0. After 60 days out of 5, 3 grade III became grade 0. After 2 months all patients became either grade 0 or I.

In the placebo group after 30 days out of 8 grade IV, 6 remain grade IV. 5 out of 7 grade III remains grade III, even one progressed to grade IV.

After 60 days 2 out of 8 grade IV patients become grade I and none become grade 0 while 4 out of 7 grade III become grade II, and 3 of grade 3 become grade I.

**Conclusion:** Kali Cyanatum 30C improved radiation induced oral mucositis in cases of oral squamous cell carcinoma. But more scientific studies are needed in future to establish its role in palliative care.

Keywords: Kali cyanatum, oral cancer, homoeopathic medicine, palliative care, oral mucositis, post radiation mucositis

#### Introduction

Oral cancer is one of the most common cancers in India. Due to various factors, the patients present late with advanced stages of cancer. After potentially curative surgery, most of these patients require adjuvant radiation. Radiation is associated with frequent and severe toxicities. Most common toxicities are oral mucositis, skin reactions, dysphagia, which leads to weight loss and weakness.

Homoeopathy is a well-known parallel system of treatment. Literature has shown that it has a proven effect in the treatment of various diseases <sup>[1]</sup>. There is evidence that homeopathy has a role in the management of cancers <sup>[2, 3]</sup>. Although studies are very limited. In this prospective pilot study we tried to find out if and to what extent homeopathy actually improves oral mucositis in adjuvant radiation therapy cases of oral cancers.

#### **Materials and Methods**

30 subjects, who were already operated for squamous cell carcinoma oral cavity and undergoing adjuvant radiation were included in study. This study was jointly conducted at homeopathic and head and neck surgical oncology clinic. 15 patients were included in treatment group were given homeopathic medicine Kali Cyanatum and rest 15 patients were received standard treatment for oral mucositis which includes chlorhexidine oral mouthwash, multivitamin & antioxidants capsules, folic acid tablets and antiseptic oral gels. Since all the patients selected in this study group were referred to the clinic after developing the symptomatic oral mucositis and that is the reason all the patients had grade III and grade IV mucositis at the time of first presentation. All the subjects were at stage III or IV of oral squamous cell carcinoma AJCC. All patients were examined clinically after every 15 days by head and neck surgical oncologist. Clinical records and clinical photographs were maintained. All the subjects were followed up for 12 weeks.

#### Results

After one month in the treatment group, 4 out of 10 grade IV subjects become grade I, while only 1 remain grade IV. After 60 days all grade IV become grade 0. Rest all grade IV become grade I. After 60 days in grade III patients 3 out of 5 became grade 0.After 2 months all patients become either grade 0 or I.

In the placebo group after 30 days out of 8 grade IV 6 remain grade IV and 7 grade III remain grade III even one progressed to grade IV.

After 60 days 2 out of 8 grade IV patients become grade I and none become grade 0 while 4 out of 7 grade III become grade II, and 3 of grade 3 become grade I.

Table 1: Total number of cases

Total	30	Stage III	19
Male	22	Stage IV	11
Female	8	Age 35-45	6
		Age 46-55	11
		Age 56-65	13

Table 2: Number of patients as per the intensity of the symptoms

Grade of mucositis at commencement of treated	Group A (Kali cyanatum 30C)	Group B (Placebo)
I	0	0
II	0	0
III	5	7
IV	10	8

Table 3: Group treated with kali cyanatum

<b>Patients</b>	Grading at start of treatment	At 15 days	At 30 days	At 45 days	At 60 days	At 75 days	At 90 days
1	III	I	II	II	I	0	0
2	III	II	0	0	I	I	0
3	III	III	III	I	0		0
4	IV	III	II	I	0	0	0
5	IV	II	I	0	0	0	0
6	IV	III	II	I	I	0	0
7	IV	I	I	II	I	I	I
8	IV	III	II	II	I	0	0
9	IV	IV	IV	II	I	I	0
10	III	II	II	I	0	0	0
11	IV	IV	II	I	0	0	0
12	IV	II	11	I	I	0	0
13	IV	III	I	0	0	0	0
14	III	I	I	I	0	0	0
15	IV	IV	II	II	I	I	0

Table 4: Group not treated

<b>Patients</b>	Grading at start of treatment	After 15 days	After 30 days	After 45 days	After 60 days	At 75 days	At 90 days
1	III	III	III	П	II	II	0
2	III	II	III	III	II	II	0
3	IV	IV	IV	III	I	I	I
4	IV	IV	IV	III	II	II	I
5	III	1V	IV	II	II	I	I
6	IV	IV	IV	IV	III	II	0
7	IV	III	III	П	II	0	0
8	III	III	III	I	I	I	0
9	III	III	III	П	I	0	0
10	IV	IV	IV	III	II	I	0
11	III	III	II	IV	II	I	0
12	IV	IV	IV	III	III	I	0
13	III	III	III	I	I	0	0
14	IV	III	IV	III	II	I	0
15	IV	IV	III	III	I	0	0

#### Discussion

Oral cancer has become a global burden nowadays. It is the sixth most common cancer worldwide. While India harbors the largest number of cases with 77000 thousand new cases and 52000 deaths annually [1]. Cancer is uncontrolled growth of cells. Genetics and environmental factors do play an important role in the origin of cancers. Most cancers of

the oral cavity are squamous carcinomas <sup>[2]</sup>. Early stage oral squamous cell carcinomas require surgery as single modality treatment while all the advanced stages require multimodality treatment in the form of adjuvant radiation or adjuvant chemo radiation <sup>[3]</sup>. Oral mucositis is one of the most common complications of radiation therapy. All the patients who undergo radiation treatment have radiation

induced mucositis. Radiation induced mucositis occurs in approximately 80% patients with standard radiation protocols and up to 100 percent in altered fractionation protocols [4]. Oral mucositis is a major cause of discontinuation of treatment and treatment failure. Maintenance of oral hygiene is paramount in prevention of oral mucositis. Number of agents have been tried to manage the radiation induced mucositis, like normal saline and alkali mouthwashes, benzydamine (Non-steroidal anti-inflammatory agent), and low level laser therapy. Despite all management of radiation induced mucositis is frustrating for both clinician as well as patient [5].

Various mechanisms involve in development of radiation induced mucositis like, direct injury to basal epithelial cells, break in DNA strands, injury due to free radicals <sup>[6]</sup>. A German study indicates that Traumeel has some potential in reducing oral mucositis <sup>[7]</sup>.

In this study we tried to find out whether homeopathic medicine kali cyanatum improves the radiation induced mucositis. After 2 months all Patients became either grade 0 or grade 1. While in placebo group only 2 out of 8 grade IV patients become grade I and none become grade 0. In grade III 4 out of 8 remain grade II rest 3 become grade 1 one patient remain grade III. We have noticed significant improvement in treatment group as compared to placebo group. Patients in treatment group were more satisfied and there food intake was better. Despite limited resources and a small number of patients this study suggests that this homeopathic medicine works well in oral mucositis.

#### Conclusion

In this Pilot study we have found significant improvement in oral mucositis in a treatment group. On the basis of this Pilot study we recommend that more powerful studies are needed to validate the results of this study.

#### **Conflict of Interest**

Not available

#### **Financial Support**

Not available

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#### **How to Cite This Article**

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