ABSTRACT:
Cancer is known as one of the most dreaded diseases globally as well as in India. Cancer as a single disease is not mentioned in any of the Ayurveda classical literature, but diseases having similar conditions like Dushta Vrana, Dushta Granthi, Dushta Arbuda, Dushta Nadivrana etc. have been described in Ayurveda classical texts. Mukhagata Roga have been described in Sushruta Samhita, Charak Samhita, Ashtanga Hridaya, Yoga Ratnakar and Madhava Nidan. To understand the Nidan of oral cavity cancers according to Ayurveda, we have to understand the Hetu, Dosha Dushti and Sa.mpapti causing the specific Mukhagata Roga. The different ‘Vyadhi Roopa’ or ‘Vyadhi Lakshana’ depends on the predominance of the Vikruta Dosha. In ‘Mukha Pradesh’ (Oral cavity) too, various diseases and symptoms are seen due to vitiated Doshas which resemble to Arbuda and can be correlated to oral cavity cancers. For the study of oral cavity cancers with an Ayurvedic perspective, available references from modern medicine like texts, articles, journals as well as Ayurveda literature viz. Bruhat Trayi, Madhav Nidan, Yoga Ratnakar were collected and analyzed in a systematic manner.

KEYWORDS: Oral cavity cancer, Mukharoga, Anukta Vyadhi, Shotha.

Introduction:
Cancer has become a very commonly heard term now a days. It is a dreaded disease for which a definite treatment and cure is yet to be found. Globally a lot of research works from various streams of medicine are being carried out but it’s still remains as a challenge to all.

World Health Organization in its latest survey has mentioned cancer as the second leading cause of death globally and has estimated 9.6 million deaths worldwide due to cancer in the year 2018 itself. One out of six deaths globally is due to cancer.

Oral cavity cancer is one of the top 10 types of cancers found presently worldwide. The oral cavity constitutes anatomically from the upper and lower
lips, upper and lower gingiva (gums),
tongue, buccal mucosa and the retromolar
trigone. The most common type of cancer
of oral cavity is cancer of buccal mucosa
followed by cancer of tongue.

**Mukha Roga:**
Shalakya Tantra is one of the eight
branches of Ayurveda which particularly
deals with the diseases occurring in head,
neck, eyes, ear and oral cavity. Mukha
Roga is described in ancient Ayurvedic
texts like Sushrut Samhita, Charak
Samhita, Astanga Sangraha, Yoga
Ratnakar, Madhav Nidan, etc.

**Seven parts of Mukha as explained in**
**Sushrut Samhita and Yogaratnakar:**
Mukha (Oral Cavity) consists of 7 different
parts:

1. Oshtha (Lips)
2. Dantmoola (Gums)
3. Danta (Teeth)
4. Jivha (Tongue)
5. Talu (Palate)
6. Gala (Throat)
7. Mukhadi (All of the above
mentioned parts as a whole).

**Aetiological factors (Nidan) of**
**Mukhagata Roga:**

The etiological factors taken into
consideration while describing Mukhagata
Roga in ancient literature mainly
constitutes of dietary factors like fish,
buffalo meat, pork which are heavy to
digest; soup of black gram, curds, milk and
milk products, vinegar, sugarcane juice
and jaggery syrup consumed in excessive
proportion can cause diseases of Oral
cavity. Also, consumption of excessive hot
and spicy food items can lead to diseases
of oral cavity. Sleeping regularly in prone
position (Avakchhaya), improper brushing
habits and oral hygiene, not following
procedures like Dhoomapana (inhaling
medicated fumes), Vamana (emesis),
Gandusha (gargling with medicated
decocations) and Raktamokshana (blood-
letting) whenever required can also lead to
diseases of oral cavity.

**Mukharoga Samprapti:**
Improper dietary habit and improper
behavioral habit leads to vitiation of
Tridosha with the dominance of Kapha
Dosha to develop oral cavity diseases.

**Types of Mukha Roga:**
There are various differences of opinion
regarding the Samkya Samprapti or
number of types of Mukha Roga. As per
Sushrut Samhita, there are sixty five types
of Mukha Roga. The details are given the
following table.

<table>
<thead>
<tr>
<th>Site</th>
<th>Sushrut Samhita</th>
<th>Astanga Hridaya</th>
<th>Charak Samhita</th>
<th>Yoga Ratnakar</th>
<th>Madhav Nidan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oshtha</td>
<td>08</td>
<td>11</td>
<td>-</td>
<td>08</td>
<td>08</td>
</tr>
<tr>
<td>Dantmoola</td>
<td>15</td>
<td>13</td>
<td>-</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Dant</td>
<td>08</td>
<td>10</td>
<td>-</td>
<td>08</td>
<td>08</td>
</tr>
<tr>
<td>Jivha</td>
<td>05</td>
<td>06</td>
<td>-</td>
<td>05</td>
<td>05</td>
</tr>
<tr>
<td>Talu</td>
<td>09</td>
<td>08</td>
<td>-</td>
<td>09</td>
<td>09</td>
</tr>
<tr>
<td>Kantu</td>
<td>17</td>
<td>18</td>
<td>-</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Sarvamukha</td>
<td>03</td>
<td>08</td>
<td>-</td>
<td>03</td>
<td>03</td>
</tr>
<tr>
<td>Ganda</td>
<td>-</td>
<td>01</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>65</td>
<td>75</td>
<td>64</td>
<td>67</td>
<td>65</td>
</tr>
</tbody>
</table>

2 | January-2020 | Vol. 08th | Issue: 1st | www.ayurlog.com | E- ISSN: 2320-7329
Symptoms of Mukha Roga (Samanya Lakshanas):

The general symptoms⁵ of Mukha Roga have been mentioned in the Vedana Adhaya of Kashyapa Samhita in context with pediatric group. These symptoms can also be co-related to other age groups. These symptoms are -

1. Excessive salivation
2. Anorexia
3. Regurgitation
4. Tachypnoea
5. Loss of appetite
6. Generalized weakness

Oral cavity cancers, which are in the category of Anukta Vyadhi, should be understood from Ayurvedic perspective by applying Siddhanta i.e. Ayurvedic principles mentioned in Samhita.

Ayurvedic principles used to understand Anukta Vyadhi with special reference to Oral Cavity Cancers:

a. Atidesha and Uhya Tantrayukti:

Acharya Chakrapani has mentioned “Atidesha Tantrayukti” and “Uhya Tantrayukti” which can help us to understand the term ‘Cancer’ from an Ayurvedic perspective. Atidesha Tantrayukti⁶ means Sutra or principle explained in specific context and at the same time applicable to another context. Uhyam Tantrayukti⁷ basically means logical interpretation about a scientific knowledge as stated in our ancient classical texts for better understanding.

b. Indistinguishable relationship between Tridosha and Vyadhi:

In the chapter 19 of Sutras of Astodareeya Adhyaya which mainly deals with the scientific classification of disease, Acharya Charaka describes “Tridosha” viz. “Vata”, “Pitta” and “Kapha” as the main cause for manifestation of a disease by giving an example of a bird. He states that a bird flies every day, but does not leave its shadow; similarly Doshas are always pivotal in causation of diseases⁸.

c. Guidelines to understand Anukta Vyadhi:

Various diseases have been described on the basis of etiology, symptoms, color, location, etc. Acharya Charaka in the chapter 18, Trishoteeya Adhyaya of Sutras of Astodareeya Adhyaya of Sutras of Astodareeya Adhyaya of Sutras has clearly mentioned that a physician should not bother too much to understand name of the disease. The reason is that same vitiated dosha causes various disorders according to variation in etiology and location. Hence one should have complete knowledge about the Vikara Prakruti - state of vitiated Dosha, Dhatu, Mala causing disease; Adhisthanantararani - site of vitiated Dosha and Samutthanavishesha - cause of vitiation of Dosha. The thorough knowledge of these three important aspects helps in precise diagnosis and treatment⁹,¹⁰.
d. Similar diseases to cancer as mentioned in Ayurvedic texts
Cancer is not mentioned in Ayurvedic Samhitas as a single disease. Various
diseases mentioned in Ayurvedic texts like Dushta Vrana, Dushta Granthi, Dushta
Arbuda, Dushta Vrana Shotha, Dushta Nadivrana, Dushta Visarpa show similarity
with cancer.

Malignant tumors are similar to diseases like:
1. Dushta Shotha - (Malignant inflammation / oedema)
2. Dushta Vrana - (Malignant Wounds / Ulcers)
3. Dushta Granthi - (Malignant Nodes)
4. Dushta Arbuda - (Malignant Tumours)
5. Dushta Visarpa - (Malignant Spreading Cellulitis)
6. Dushta Nadivrana - (Malignant Fistula / Sinus)
7. Dushta Mansapradoshaja Vikara - (Malignant Diseases caused due to
   vitiation of Mansa dhatu)

The ‘Dosha-Dushti’ which may be ‘Nija’ (of internal epidemiology) or ‘Agantu’
(from external factors), creates an imbalance and accumulates at the sites of
‘Kha Vaigunya’ and becomes responsible for the disease status. The severity of the
Hetus, Dosha-Dushti affects the severity of the disease.

e. Shotha, an underlying pathology for formation, manifestation and growth
   of cancer
f. Charkacharya describes in detail about Shotha in his “Trishothiya Adhyaya”.
   Shotha is seen in various forms and parts of the body viz. Adhimansa,
   Arbuda, etc. Basically Granthi, Arbuda, Vidradhi, Visarpa, Nadivrana
   and Mansapradoshaja Vikara are various forms of Shotha (oedema),
   because Utsedha (growth / swelling) is the
   common and predominant symptom in them¹¹.

Sushrutacharya defines “Shotha” as any vitiation of the doshas causing an
accumulation which may have a definite or irregular form occurring at skin or flesh¹².

It can occur locally (Ekanga) in the body or generally (Sarvanga). In case of Mukha
Roga, ‘Galarbuda’, ‘Kapharbuda’, ‘Talu-arbuda’, etc; are examples of Ekanga
Shotha whereas ‘Sarvasara’ where inflammation and ulceration of mouth is
seen is an example of Sarvanga Shotha.

In normal individual, the Tridoshas are in harmony and constitute the different parts
of the body in different proportions. Due to various etiological factors, the Doshas get
vitiating and affect the Dhatus. In ‘Mukha Pradesh’ (oral cavity) too, various diseases
and symptoms are seen due to vitiated Doshas which can be correlated to the
signs and symptoms of oral cavity cancers and the side-effects of radiation and
chemotherapy in these patients.

g. Stages of cancer according to ‘Gati’
   and ‘Swaroop’ of ‘Dushta Dhatu’:

In ‘Gata Vata’, ‘Vata’ being located at a
particular site gets vitiating and later causes
specific symptoms pertaining to that
particular Sthana¹³. The concept states
invasion and manifestation of particular
disease in successive Dhatus (deeper and
deeper tissues) namely Rasa, Rakta,
Mansa, Meda, Asthi, Majja and Shukra, as disease progresses. In case of oral cavity cancers, metastasis in lymph nodes and in neck region, even upto the level IV nodes and metastasis in lungs are common and are considered as Dhatugata Awastha.

Sushrutacharya has also explained a stage Mansa Dhatu Paka meaning advance stage of Mansa Arbuda, where Mansa Dhatu gets necrosed causing severe pain. Dhatugata Awastha in Dushta Arbuda i.e. malignant lesions can be co-related with metastasis, whereas Dhatu Paka Awastha can be co-related with advance necrotic stage of cancer.

### h. Correlation of Mukha Roga with oral cavity cancer and its symptoms:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Mukha Roga</th>
<th>Site</th>
<th>Correlation with</th>
<th>Vitiated Dosha</th>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kaphaj Jivha Kantaka</td>
<td>Jivha tongue</td>
<td>Chronic glossitis, Leucoplakia</td>
<td>Kapha</td>
<td>Jivha becomes heavy, thick, wide and is scattered with thorny buds resembling Shalmali Kantak and is associated with pain, discomfort and itching sensation.</td>
</tr>
<tr>
<td>2.</td>
<td>Galarbuda</td>
<td>Gala Throat</td>
<td>Tumour in throat region in the vicinity of tongue</td>
<td>Tridosha</td>
<td>Hard, immobile, painless, non-suppurative, reddish tumour in the throat in the vicinity of tongue</td>
</tr>
<tr>
<td>3.</td>
<td>Kapharbuda (Buccal Mucosa)</td>
<td>Kapola (Buccal Mucosa)</td>
<td>Cancer of Buccal Mucosa</td>
<td>Tridosha, Kapha dominance</td>
<td>Blackish-white color tumour in the oral cavity specifically in the internal surface of Kapola i.e. cheeks.</td>
</tr>
<tr>
<td>4.</td>
<td>Sarvasara Mukha Roga</td>
<td>Oral cavity</td>
<td>Pre-malignant and malignant stage.</td>
<td>Tridosha, Pitta dominance</td>
<td>Inflammation or ulceration in the oral cavity mainly seen in all types of oral cavity cancers</td>
</tr>
<tr>
<td>5.</td>
<td>Puti Mukhta</td>
<td>Oral cavity</td>
<td>Halotosis or oral unhygienic condition</td>
<td>Tridosha + Rakta</td>
<td>Foul smell comes from the mouth</td>
</tr>
<tr>
<td>6.</td>
<td>Gala Graha (Oropharynx region)</td>
<td>Kantha (Oropharynx region)</td>
<td>Tumour in throat region</td>
<td>Tridosha, Kapha dominance</td>
<td>Immobile swelling inside the throat region associated with fever, anorexia and</td>
</tr>
</tbody>
</table>

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Table 2 : Correlation of Mukhagata Roga with oral cavity cancer and its symptoms:
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Mukha Roga</th>
<th>Site</th>
<th>Correlation with</th>
<th>Vitiated Dosha</th>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Talu Arbuda</td>
<td>Talu (Palate)</td>
<td>Carcinoma of Palate</td>
<td>Tridosha + Rakta</td>
<td>Red colored tumour resembling Padma Karnika</td>
</tr>
<tr>
<td>8.</td>
<td>Talu Shosha</td>
<td>Talu (Palate)</td>
<td>Atrophy of Palate</td>
<td>Tridosha with Vata and Pitta dominance</td>
<td>Dryness in mouth, Dyspnœa</td>
</tr>
<tr>
<td>9.</td>
<td>Talu Paka</td>
<td>Talu (Palate)</td>
<td>Ulceration of Palate</td>
<td>Tridosha with Pitta dominance</td>
<td>Formation of ulcer in the palate</td>
</tr>
<tr>
<td>10.</td>
<td>Alasa</td>
<td>Jivha (Tongue)</td>
<td>Sublingual abscess or carcinoma</td>
<td>Tridosha with Kapha and Rakta dominance</td>
<td>Progressive swelling underneath tongue causing immobilization and suppuration.</td>
</tr>
<tr>
<td>11.</td>
<td>Danta Vidradhi</td>
<td>Dant-moola (Alveolus)</td>
<td>Alveolar abscess</td>
<td>Tridosha with Rakta dominance</td>
<td>Swelling of gums associated with pain and edema, after suppuration discharges blood stained pus.</td>
</tr>
<tr>
<td>12.</td>
<td>Rakta Arbuda</td>
<td>Oshtha (Lip)</td>
<td>Swelling at lip</td>
<td>Tridosha with Rakta</td>
<td>Formation of reddish colored swelling which resembles Kharjura fruit</td>
</tr>
<tr>
<td>13.</td>
<td>Hanu Graha</td>
<td>Hanu (Jaw)</td>
<td>Trismus</td>
<td>Tridosha with Vata dominance</td>
<td>In this condition there is difficulty in opening of mouth and disability in movement of jaw</td>
</tr>
</tbody>
</table>

References:
4. Sushrut Samhita with commentary Ayurveda Tatvasandipika by Kaviraj Ambikadatta Shastri,
Chaukhamba Sanskrit Sansthan, Varanasi (2005), Nidansthana 16/3, pp 294.


17. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4637760/


Conflict of Interest: Non
Source of funding: Nil

Cite this article: Conceptual Study of Anukta Vyadhi – Oral Cavity Cancer with special reference to Mukhagata Roga Sushrut S. Sardeshmukh, Vineeta V. Deshmukh, S.P. Sardeshmukh