Role of *Brihatyadi Taila Gandusha* in the Management of *Krimi Danta* (Dental Caries)

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**ABSTRACT**

The importance has been given to Dental hygiene to maintain health and beauty. The healthy teeth are very much necessary for healthy body. The disease, Krimi Danta is considered under Danta roga. Krimi Danta is characterized by blackish discoloration of tooth with cavity formation, loosening of teeth, foul fluid discharges associated with pain and swelling due to vitiated Vata followed by Pitta and Kapha. Krimi Danta can be correlated to dental caries in modern science, in which bacteria damage the enamel which is the hardest structure of tooth as well as dentine and cementum. These tissues progressively break down, producing dental cavities. Pain is the commonest symptom in caries. Hence, the present study is taken up to evaluate the efficacy of ‘Brihatyadi Taila’Gandusha’ in the management of krimi danta.

**KEYWORDS**

*Krimi danta, Gandusha, Dental caries, Danta roga*
INTRODUCTION
The disease, KrimiDanta is considered under Danta roga under the heading of Mukha roga. Krimi Danta is characterized by blackish discoloration of tooth with cavity formation, loosening of teeth, foul fluid discharges associated with pain and swelling due to vitiated Vata followed by Pitta and kapha. Krimi Danta can be correlated to dental caries in modern science, wherein bacterial process damage the enamel which is the hardest structure of tooth as well as dentine and cementum. These tissues progressively break down, producing dental cavities. Pain is the commonest symptom in caries.
In Ayurvedic texts a good numbers of medicaments are explained for strengthening the teeth and gums. These remedies are made from various plants and applied to the gums & tooth in the management of Krimi Danta.
Majority of ingredients of Brihatiyadi Taila are having Tikta Katu & Kashaya Rasa, Laghu, Ruksha and Tikshna Guna, Ushna Virya, Vata, Pitta Kaphahara having Krimighna, Shoolahara, Sothaghana properties.
Hence the present study is taken up to evaluate the efficacy of ‘Brihatyadi Taila’Gandusha in the management of krimi danta.

CASE REPORT
A 40 years old female patient complained of blackish discoloration of tooth with cavity formation in right first molar tooth lower jaw with the associated complaint of loosening of teeth, foul fluid discharges associated with pain, swelling, hypersensitivity of teeth and foul smell in the mouth. On advice she underwent for IOPAR (intra oral per apical radiograph) on July 2018 and was found to have dental caries involved to the dentine. It was diagnosed as Krimi danta (Dental Caries). She was under Ayurvedic management for one week in Shalakya Department and marked relief was noted in pain, swelling and associated symptoms of krimi danta with Brihatyadi Taila Gandusha.

PRADHAN VEDANA (CHIEF COMPLAINT)
Dantashula (Toothache), Sotha (Inflammation), Chhidrata (Cavity Formation), Srava (Discharge), Paka (Pus formation), AniyamitaRuja (Pain without reason)

HISTORY OF PRESENT ILLNESS
Patient told that she was suffering from Mukha daurghandhya (Halitosis), Krishnata (Discoloration of tooth), Chalatva (Mobility of teeth) and Dantaharsha (Hypersensitivity of teeth) since last two years.
PAST HISTORY –
- Medical History - No history found
- Past Dental History - Tooth extraction of left third molar tooth in lower jaw.

FAMILY HISTORY -
- Medical – No history found
- Dental - No history found

PERSONAL HISTORY –
- Religion - Hindu
- Education - Graduate
- Marital Status - Married
- Occupation - House wife
- Socio-economic status - Lower middle class
- Oral Hygiene aid – Tooth Brush
- Cleansing Material – Tooth paste
- Frequency of cleansing teeth – Once daily
- Mukhasuddhi - Cold water
- Addiction – Pan, Tobacco chewing
- Diet – Mixed
- Dominant Rasa – Madhur and amla
- Appetite - Moderate
- Bowel - Irregular
- Mucturation - Normal
- Sleep - Normal

ATURABALA PRAMANA PARIKSHA
- PRAKRITIAH -
  - Saririka – Vataj
  - Manasika - raja
  - Sara - Madhyam
  - Samhanana - Madhyam
  - Satva - Madhyam
  - Satmya - Aaharaj
  - Ahara Shakti - Madhyam
  - Agni - Visama
  - Vyayama Shakti - Avara
  - Vaya - Yuva
  - Desha - Anoop

CLINICAL EXAMINATION -
GENERAL EXAMINATION -
- Pulse - 72 /min
- Temp – 98° F
- B.P. – 110/70 mm of Hg.
- Resp. Rate – 18 - 20 /min

ORAL EXMINATION
- Halitosis – Present
- Discharge - Present
- Palate - Normal
- Tongue – Coated
- Buccal mucosa – Normal

TEETH EXAMINATION
- No. of teeth presents - 30
- Carious teeth - Right first molar tooth in lower jaw
- Stage of carious Teeth - Decay invades pulp
- Color of teeth - Stain
- Occlusion - Malocclusion
- Food impaction - Present
- Mobility - 1°
• Filled Teeth - No
• Hypersensitivity - Present

GUMS EXAMINATION
• Color - Oedematous
• Consistency – Pain and occasionally bleeding
• Bleeding on probing - Present

LABORATORY INVESTIGATIONS

BLOOD
• Hb - 10.5 % gm
• Blood Sugar - Fasting 92.5 mgdl

URINE
• Routine and Microscopic – No abnormality found

RADIOGRAPH
• IOPAR - Dental caries involved to the dentine tissue.

DRUG, DOSE & DURATION

DRUG
Brihatyadi Taila Gandusha

DOSE
20 – 30 ml luke warm Brihatyadi taila gandusha twice daily for 7 days.

DURATION
Till samayak gandusha lakshna observed (aprox. 10-15 minute)

OBSERVATION

The effect of treatment was assessed subjectively by clinical observation on the basis of relief in signs and symptoms of the disease. Signs and symptoms were assessed with the help of following scoring method.

METHOD

DANTASULA (ODENTOLOGIA)
0 – Absence of pain
1 – Occasional mild pain
2 – Moderate pain
3 – Severe pain

SOTHA (INFLAMMATION)
0 – Absence of Inflammation
1 – Mild Inflammation over gums in one or two regions with slight local tenderness.
2 – Moderate Inflammation
3 –Severe Inflammation causing difficulty in chewing food particles.

CHIDRATA (CAVITY FORMATION)
0 – Absence of cavity
1 – Mild appearance of cavity
2 – Noticeable appearance of cavity (Patient can observe cavity)
3 – Large size cavity causing lodgment of food stuffs.

DAURANGANDHYA (HALITOSIS)
0 – Absence of bad odour
1 – Presence of mild bad odour
2 – Presence of moderate odour
3 – Constant presence of severe bad odour even after repeated cleaning of mouth.

KRISHNATA (DISCOLOURATION)
0 – Absence of discoloration
1 – Mild discoloration
2 – Half discoloration of cavity
3 – Full discoloration of cavity
CHALATAVA (MOBILITY)
0° - Absence of mobility
1° - Noticeable movement in its socket within a range of 1 mm
2° - Movement of a tooth within a range of 2 mm
3° - Movement of a tooth with more than 3 mm

DANTAHARSA (ODONTITIS)
0 – Absence of hypersensitivity of teeth
1 – Mild hypersensitivity of teeth
2 – Moderate hypersensitivity of teeth
3 – Severe hypersensitivity of teeth

SRAVA (DISCHARGE)
0 – Absence of discharge
1 – Mild discharge
2 – Moderate discharge
3 – Large amount of discharge.

PAKA (PUS FORMATION)
0 – Absence of pus formation
1 – Mild pus formation
2 – Moderate pus formation
3 – Copious amount of pus

ANIYAMITA RUJA (PAIN WITHOUT REASON)
0 – Absence of pain
1 – Mild pain
2 – Moderate pain
3 – Severe pain

IOPAR
0 – Absence of caries
1 – Involved enamel tissue
2 – Involved dentine tissue

3 – Involved Cementum / Pulp tissue

RESULTS
The total effect of therapy was assessed considering overall improvement in signs and symptoms after the therapies. (Table No. 1)
Cured: 100% relief in the complaints
Marked improvement: 76% to 99% relief in the complaints
Moderate improvement: 51% to 75% relief in the complaints
Mild improvement: 26% to 50% relief in the complaints
Unchanged: up to 25% relief in the complaints

In this study we found that patient got 100% relief in chaltva, Srava, Paka, and Aniyamiya Ruja, marked improvement in Durgandhya, Dantashoola, Sotha, and Dantaharsha, and no improvement in Chhidrata, Krishnata, and IOPAR. (Table No. 1)

DISCUSSION
PROBABLE MODE OF ACTION OF DRUG
The present study deals with the therapeutic aspect of the drug “Brihatyadi Taila” in dental caries.
Table 1 Effect of Therapy

<table>
<thead>
<tr>
<th>S. No.</th>
<th>COMPLAINTS</th>
<th>BT</th>
<th>3rd day</th>
<th>5th day</th>
<th>7th day</th>
<th>AT</th>
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<tbody>
<tr>
<td>1</td>
<td>Dantashula</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Sotha</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Chhidrata</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Daurgandhya</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Krishnata</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Chalatva</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
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<tr>
<td>7</td>
<td>Dantaharsha</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Paka</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>IOPAR</td>
<td>2</td>
<td>2</td>
<td>2</td>
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</tbody>
</table>

Table 2 Pharmacodynamic Properties of Brihatyadi Taila

<table>
<thead>
<tr>
<th>Drug</th>
<th>Rasa</th>
<th>Guna</th>
<th>Virya</th>
<th>Vipaka</th>
<th>Prabhava</th>
<th>Dosakarma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahhti</td>
<td>Katu,Tikta</td>
<td>Laghu,Ruksha,Tikshana</td>
<td>Usna</td>
<td>Katu</td>
<td>Sothahara,shoolahara,krimighana</td>
<td>Kaphavathara</td>
</tr>
<tr>
<td>Eranda</td>
<td>Madhura</td>
<td>Snigdha,Tikshana,Sukshma</td>
<td>Usna</td>
<td>Madhura</td>
<td>Sothahara,shoolahara,krimighana</td>
<td>Kaphavathara</td>
</tr>
<tr>
<td>Kantakari</td>
<td>Katu,Tikta</td>
<td>Laghu,Ruksha,Tikshana</td>
<td>Usna</td>
<td>Katu</td>
<td>Sothahara,shoolahara,krimighana</td>
<td>Kaphavathara</td>
</tr>
<tr>
<td>Bhumi</td>
<td>Katu,Tikta</td>
<td>Kashaya</td>
<td>Usna</td>
<td>Kapha Pitta</td>
<td>Shoolahara,krimighana</td>
<td>Tridoshsamaka</td>
</tr>
<tr>
<td>kadamba</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tila Taila</td>
<td>Madhura, katu, tikta,kashaya</td>
<td>Vyavai,Guru,Snigdha,Sukshma</td>
<td>Usna</td>
<td>Madhura</td>
<td>Vishaghna, Vataghna</td>
<td></td>
</tr>
</tbody>
</table>

It has been explained by Ashtang Hridya.

- **Brahti**
- **Eranda**
- **Bhumikadamba**
- **Kantakari**

After going through the properties of the contents of Drug Brihatyadi Taila, it is seen to have predominantly Tikta, Kasaya, Katu, and madhura rasa, Laghu, Ruksa and Tiksha Guna, Usna Virya, Katu Vipaka. In contents of Brihatyadi Taila, Katu rasa acts as Sodhana, Lekhana, Vrananasaka, Puyashodhak, Krimighna and Kaphaghna. Kasaya rasa exhibit the Ropana, Sodhana, Lekhana and Raktasodhaka properties. Katu rasa exhibits kapha pitta shamaka activity

Madhura rasa is Ropaka, Vata-Pitta Shamaka and also acts as the immunity Promoter. (Table - 2)

Brihatyadi Taila provides statically significant relief in Dantashula (79.54%), sotha (77.77%), Daurgandhta (85.71%), Dantaharsa (69.23%), and Aniyamitaruja (85.71%). It provides better relief in Chalatva (66.66%), Srava (75.00%), and
Paka (60.00%) also, but very less patients having these complaints because of that statically insignificant.

**CONCLUSION**

On the basis of the present study, following conclusions can be drawn.

- Krimidanta can be correlated with disease Dental caries.
- From the results and observation which were received from this study it can be concluded that Brihatyadi Taila Gandusha was provided better results in Dantasula, Durgandhya, Dantaharsa, Aniyamitruja, Sotha and Paka in Krimidanta.
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