Review Article

A COMPREHENSIVE REVIEW OF ETIO-PATHOGENESIS OF TUNDIKERI

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DOI: 10.7897/2321-6328.01319

Article Received on: 12/07/13
Accepted on: 20/09/13

INTRODUCTION

Tundikeri is one of the common prevalent diseases in paediatric age from 5-10 years of age. It generates morbid conditions in maximum number of children during the first few years of life. The incidence of this disease is about 7% of all visits to the paediatrician. The word Tundikeri gives a general meaning of a disease which occurs in oral cavity. It is defined as a swelling occurring at root of Hanusandhi (tempero-mandibular joint) resembling VanakarpasaPhala (cotton fruit). Tundikeri is mentioned in the context of Mukharoga (diseases of oral cavity). In Ayurveda, while describing its surgical management it is dealt under Talugata (diseases of palate)6. The etio-pathogenesis with treatment explained in the context of Kanthagata Roga (diseases of throat)7,8. In contemporary science the symptoms of Tundikeri may be co-related to Tonsillitis.

Causative Factors

Although specific causes are not mentioned in classics, general etiological factors of Mukharoga may be considered. Causative factors can be grouped under- Aaharaja (dietic causes) (Table 1) and Viharaja (lifestyle causes).

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Food items</th>
<th>Taste</th>
<th>Quality</th>
<th>Potency</th>
<th>End of metabolism</th>
<th>Vitiation in Dosha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mataya (fish)4</td>
<td>Madhura</td>
<td>Ushna (hot)</td>
<td>Amla (sour)</td>
<td>-</td>
<td>Pitta, Kapha</td>
</tr>
<tr>
<td>2</td>
<td>Mahisha Mamsa (meat of buffalo)5</td>
<td>Madhura</td>
<td>Ushna (hot)</td>
<td>Amla (sour)</td>
<td>-</td>
<td>Kapha, Rakta and Pitta</td>
</tr>
<tr>
<td>3</td>
<td>Masha (Black gram)6</td>
<td>Madhura</td>
<td>Ushna (hot)</td>
<td>Amla (sour)</td>
<td>-</td>
<td>Kapha, Pitta</td>
</tr>
<tr>
<td>4</td>
<td>Dadi (curd)9</td>
<td>Amla</td>
<td>Ushna (hot)</td>
<td>Amla (sour)</td>
<td>-</td>
<td>Kapha, Pitta</td>
</tr>
<tr>
<td>5</td>
<td>Ksheera (milk)10</td>
<td>Madhura</td>
<td>Ushna (hot)</td>
<td>Amla (sour)</td>
<td>-</td>
<td>Kapha</td>
</tr>
<tr>
<td>6</td>
<td>Eksurasa (sugarcane juice)11</td>
<td>Madhura</td>
<td>Sheeta (cold)</td>
<td>Madhura (sweet)</td>
<td>-</td>
<td>Kapha</td>
</tr>
<tr>
<td>7</td>
<td>Phanitham (Preparation from sugarcane)14</td>
<td>Amla</td>
<td>Sheeta (cold)</td>
<td>Madhura (sweet)</td>
<td>-</td>
<td>Kapha</td>
</tr>
</tbody>
</table>
Lifestyle Causes
Dantadhavana (brushing), Kaval / Gandoosha (gargling) are measures, to maintain the oral hygiene. Escaping from these daily habits, leads to Kapha Dosha vitiation. Avaksayanam (sleeping in prone position) creates hindrance to the free flow of saliva causing Kapha Dosha vitiation. Taking bath daily after heavy diet, indigestion, drinking / bathing in cold water, excessive talking after eating and suppression of natural urges etc. aggravates Vata Dosha. Vitiated Vata Dosha deranges Kapha Dosha which congests the channels of oral cavity. The above mentioned foods and lifestyles create an environment in the throat for the invasion of bacteria in the tonsils, thus leading to inflammation. Tonsillitis is one primary focus of infection. Morbid conditions are created due to secondary infection of upper respiratory tract infection. Adeno-virus groups of viruses are the most common pathogens involved in tonsillitis. Bacterial infection may be secondary to viral invasion. Common causative bacteria include Haemolytic Streptococcus, Staphylococcus, Haemophilus Influenza and Pneumococcus.

Pathogenesis in Light of Kriyakala
The disease progresses step by step and it can be treated at the proper time, if one has knowledge of Kriyakala (stages of diseases)

Sanchaya (accumulation)
Due to excessive indulgence of above said causative factors, Kapha Dosha gets vitiated. The vitiation is in the form of quantitative increase. Some general symptoms like laziness, heaviness in body, drowsiness and mild irritation in throat may be seen.

Prakopa (provocation)
The severity of the disease is increased and the patient may complain of pricking sensation in throat. One may also develop aversion to food.

Prasara (propagation)
In this stage of disease, bodily symptoms of inactivity and distaste in mouth can be observed. There is more pain in throat region. Patient may complain of difficulty in swallowing.

Sthana Samraya (localization)
The Dosha which is vitiated causes Srotorodha (obstruction of body channels). Prodromal symptoms of the disease are seen. There may be Daha (burning sensation) and Toda (severe pain) at the throat.

Vyakta Avastha (manifestation)
The disease is well established and all the symptoms of Tundikeri are seen. The swelling is Karpasaphala Sannibha. Symptoms like Bheda (pricking pain), Picchila Srava (excess salivation) and Galoprodha (dysphasia) can be observed. Patient also complains of weakness of body, anorexia and may have fever.

Bheda Avastha (resolution/chronicity)
Now the disease becomes chronic. Katina Shopsha (enlarged hardened swelling), unpleasant taste, bad smell in mouth (halitosis), Prapaka (suppuration) and change in voice may be seen in the patient. If the disease goes untreated it may undergo suppuration. (Figure 1)
There are two types of Tundikeri-VataPittaja and Kapha Raktaja. The onset of Vata-PittajaTundikeri (Acute Pharyngo-tonsillitis) is quick and the disease attains suppuration quickly. This is attributed to Teekshna Guna (penetrating nature) of Pitta. The onset of Kapha-Raktaja Tundikeri (Chronic follicular tonsillitis) is slow with less suppuration due to involvement of Manda Guna of Kapha.

**Samprapti Ghataka**

Nidana: Kapha, Rakta aggravating foods and local unhygienic conditions

<table>
<thead>
<tr>
<th>Stage</th>
<th>Dosha</th>
<th>Guna</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanchaya</td>
<td>According to causative factors</td>
<td>According to causative factors</td>
<td>Alasya (laziness), Upalepa in Mukha (coating in mouth)</td>
<td>Prevention of causative factors</td>
</tr>
<tr>
<td>Prakopa</td>
<td>Pitta, Kapha</td>
<td>Sthira, Guru, Picchila, Sheeta</td>
<td>MandaVedana (mild pain), Pricking sensation in throat</td>
<td>Shodhana of Mukha, Pratisarana (rubbing), maintenance of oral hygiene</td>
</tr>
<tr>
<td>Prasara</td>
<td>Vata</td>
<td>Ruksa, Khara, Ushna, Sukshana, Chala</td>
<td>Ruk (soreness of throat)</td>
<td>Kavala/Gandusha (gargling) with hot water, Dosa Pratyankika Aushadhi (opposite to Dosa)</td>
</tr>
<tr>
<td>Sthana Samshraya</td>
<td>Pitta, Kapha, Rakta</td>
<td>Teekshna, Usna, Vidahi</td>
<td>Daha (burning sensation), Sopha (hyperaemia)</td>
<td>Kavala/Gandusha (gargling) with Deepana-Pachana (digestive) medication, Nasya (nasal medication)</td>
</tr>
<tr>
<td>Vyakta</td>
<td>Vata, Pitta, Kapha, Rakta</td>
<td>Sthira, Guru, Manda</td>
<td>Sotha (swelling of tonsils), Galavarodha (lymphphagia)</td>
<td>Use of Parniya Kshara, Vyadhi Pratyankika Aushadhis (opposite to diseases), Chedana (incision)</td>
</tr>
<tr>
<td>Bheda</td>
<td>Vata-Rakta: Acute Vata-Kapha: Chronic</td>
<td>Kleda, Tikshna, Ruksa, Khara, Vidahi</td>
<td>Paka (pus), Toda (pricking pain)</td>
<td>Bhedana (excision), Kshara Karma</td>
</tr>
</tbody>
</table>

**Factors for the chronicity of Tundikeri**

*Leenanavasha of Dosha*

If Dosha are deep seated, it will become difficult to diagnose the disease at its early stage. Hence condition may turn into chronic.

*Apathyaa Sevama*

Due to improper diet and habits during Vyadhimuktavastha (convalescence period), the complications of Tundikeri may develop.

*KrishhasadhyaaVyadhi*

If the condition remains untreated; the prognosis of Tundikeri may be Krishhasadhyaa (difficult to cure).

**Rules and Regulations**

*Congenial Diet*

Dhanyam (cereal), Yava (Hordeum vulgare), Mudga (Phaseolus mungo), Kulatthaa (Dolichosbiflorus), Jangala Mamsarasaa (meat soup of animals of dry regions), Karavella (Momordiacherantiana), Patola (Trichosanthesdioica), Balamula (Sida coridfolia), Karpooaneeram (camphor water), Tambula (Piper betel), Taptambu (boiled water), Khadiraa (Acacia catechu), Ghrita (ghee) and other Katu-Tikta Veerya Dravya.

*Congenial Therapies*

Svedana (sudation), Virechana (purgation), Vamana (emetics), Gandoosha and Kavala (gargling), Pratisarana (local rubbing of medicine), Asrasruthi (blood-letting), Nasya (errhine therapy), Dhoomapanaa (inhilation of medicated smoke), Sashtra Karma (surgical procedure) and Agnikarma (cauterisation)

*Non-congenial Diet*

Amla Rasa (sour taste), Mutsya (fish), Anupa Mamsa (meat of animals of marshy land), Dadhi (curd), Ksheera (milk), Masha (black gram), Ruksa, Kathina Anma (dry, hard food stuffs) and Abhisdyandi (food stuffs causing obstruction of body channels).

*Non-congenial Lifestyle*

Snana (bathing) and Divaswapna (sleeping during day).

**DISCUSSION**

The nomenclature of Tundikeri is based on morphological appearance. The exact location is mentioned as Tempero-mandibular joint, which creates confusion whether it is an internal structure or can be felt externally.

**Incidence**

The incidence of Tundikeri is more in Balaa and Kaumara age group due to underdeveloped immunity. The prevalence and recurrence of the Tundikeri is found more predominantly during the period of July to January. It is due to rainy and cold season which facilitates accumulation of Kapha Dosha and even growth of bacteria and virus.

**Dietic Factors**

The Nidana discussed in classics may not be detected in history taking but new items like ice-creams, bakery foods and chocolates may vitiate the Dosha in current scenario. Light to digest, pungent, bitter taste food articles are congenial for the disease. While heavy, oily food articles aggravate the disease.

**Lifestyle Factors**

Sleeping in prone position causes accumulation of salivary secretions preventing the bactericidal enzymes- thiocyanate...
ions and lysozyme to work. Non-practising night teeth brushing and oil-pulling lead to poor oral hygiene, this in turn acts as source of secondary infection.

**Pathogenesis**
In Tundikeri Pradhana Dosha is Kapha, Rakta and Anubandhi Dosha is Vata, Pitta. Tundikeri is easy to treat when it involves Rasa, Rakta Dhatu (acute) but it becomes difficult when it approaches the Mamsa Dhatu and forms Granthi (chronic).

**Types**
In Kapha-Raktaja Tundikeri (chronic follicular tonsillitis) pain in throat is more during morning and evening hours (Kapha Pradhana Kala). In Vata-Pitta Tundikeri (parenchymatous tonsillitis) pain is constant throughout the day and night.

**Prevention**
The disease of Tundikeri is recurrent in nature. It can be prevented if attention is given to causative factors and pathogenesis. Slight changes in lifestyle can prevent this disease.

**CONCLUSION**
Tundikeri is a clinical condition which is very common into day’s paediatric practice. It can be managed easily with complete understanding of its etio-pathogenesis. This helps in planning treatment as per the respective stage and Dosha. As surgical management, tonsillectomies are being practiced in children, which further hamper their immunological function. Thus clinician’s role to diagnose and treat Tundikeri at the earliest is found very effective. One should also keep in mind the preventive measures to avoid the pain of the ailment in young children.

**ACKNOWLEDGEMENT**
Authors are highly grateful to the constant support of Dr. Prasanna N Rao, Principal, Dr. Girish K J, Research Co-ordinator, Dr. Vijayalakshmi M, Dr. Nayan Kumar, faculty and all PG Scholars, Department of P G Studies in Kaumarabhritya, SDM College of Ayurveda, Hassan, India.

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**Cite this article as:**

Source of support: Nil; Conflict of interest: None Declared