

REVIEW ARTICLE ON ROLE OF SHUNTHI IN SUTIKA MAKKAL

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**ABSTRACT**

Shunthi (*Zingiber officinale*), one of the renowned spices all over the world, having a long history of medicinal use for more than 2000 years, belongs to Zingiberaceae family. In Ayurveda it is called as Visvabhesaja and Mahausadha due to its utility in vast variety of diseases. Among all those diseases, one is Sutika Makkal. A woman is termed as sutika when she delivers the fetus and the placenta both. If the placenta is not expelled, she can't be called as sutika. Sutika makkal is a condition in which the woman experiences pain in abdomen after the delivery of fetus and placenta. In Ayurveda pain is always thought to be associated with vitiated vata dosha, so shunthi can be very beneficial in this aspect as it pacify vata. Besides this some active components of shunthi like gingerols and shogaols produces its analgesic effect by calcium channel blockade and some by inhibition

of prostaglandin synthesis.

**KEYWORDS:** Shunthi, Ayurvedic, Visvabhesaja, Mahausadha, Ginger.

**INTRODUCTION**

The medicinal use of shunthi is well known in India and its neighboring countries for more than 2000 years as one of the most versatile medicinal plants. According to the report of the World Health Organization (W.H.O.) about 80% of the world's populations rely mainly on traditional therapies which involve the use of plant extracts or their active substances.<sup>[1]</sup>

Ginger is a perennial herb; rhizome is stout, tuberous with erect leafy stem, 60-90 cm tall. Leaves are sessile, linear-lanceolate, 10-25×1.5-3 cm, narrowed to the base, acute or acuminate; sheath 10-15cm long. Flowers are greenish with a small dark purple lip, in oblong, cylindrical spikes ensheathed in a few scarious, glabrous bracts, 4 to 7 cm long. Fruits oblong capsules.<sup>[2]</sup>

In Ayurvedic texts, 74 diseases are quoted which may influence sutika.<sup>[3,4]</sup> Sutika makkal is one of those diseases.<sup>[4]</sup>

**Etiopathogenesis of sutika makkal<sup>[5]</sup>:** Unexcreted or unpurified blood, inspite of use of pungent drugs or when the drugs were not used by *prasuta* having dry body, gets localized by *vata* in the uterus. This retained blood produces glandular structure in any of these sites- infraumbilical region, flanks, bladder or bladder neck (hypogastric region).

#### **Clinical features of sutika makkal<sup>[5]</sup>**

- Severe pain in umbilical region.
- Pain in bladder region, i.e. hypogastric region.
- Abdominal pain.
- Severe pain in *pakwashaya* (large bowel) region, like if needles are being pricked, the bowel is being torn or perforated.
- Flatulence.
- Retention of urine.

Thus it can be concluded that the main culprit behind this type of pain is vitiated vata dosha. So, shunthi may be quite beneficial in alleviation of sutika makkal as it is ushna in virya by nature and having madhur vipaka, which is contrary to that of vata dosha.

#### **MATERIAL AND METHOD**

Shunthi has been used as traditional medicine since ancient time. In Ayurvedic texts, Acharyas have described *shunthi* in different *Ganas/ Varga* according to its property.

#### **Description in Ayurveda**

*Charak* described *Shunthi* in *Deepniya*, *Triptighna*, *Arshoghna*, *Stanyashodhana*, *Trishnanigrahana*, *Sheetprashamana* and *Shoolprashamana mahakashaya<sup>[6]</sup>*, *Susruta* in *Pippalyadi Gana* and *Trikatu<sup>[7]</sup>*.

In *Nighantus*, *Shunthi* is mentioned under *Shatpushpadi Varga* in *Dhanvantari Nighantu*<sup>[8]</sup>, *Ausadhi Varga* in *Kaiyadev Nighantu*<sup>[9]</sup>, *Haritakyadi Varga* in *Bhavaprakash Nighantu*<sup>[10]</sup>, *Pippalyadi Varga* in *Raja Nighantu*<sup>[11]</sup> and *Priya Nighantu*.<sup>[12]</sup>

### Properties in Ayurveda<sup>[13]</sup>

*Rasa* : *Katu*

*Guna* : *Laghu, Snigdha*

*Virya* : *Usna*

*Vipaka* : *Madhura*

*Karma* : *Deepana, Pachana, Anulomana, Amadoshahara, Vatakaphapaha, Hrdya*

Parts used : Dried rhizome

### Phytochemistry

In the fresh ginger rhizome, the gingerols were identified as the major active components.<sup>[14]</sup> The volatile oil components in ginger consists mainly of sesquiterpene hydrocarbons, predominantly zingiberene (35%), curcumene (18%) and farnesene (10%). Many of these volatile oil constituents contribute to the distinct aroma and taste of ginger. Non-volatile pungent compounds include gingerols, shogaols, paradols and zingerone that produce a 'hot' sensation in the mouth. The gingerols, a series of chemical homologs differentiated by the length of their unbranched alkyl chains, were identified as the major active components in the fresh rhizome. In addition, the shogaols, another homologous series and the dehydrated form of the gingerols are the predominant pungent constituents in dried ginger. Paradol is similar to gingerol and is formed on hydrogenation of shogol. Other constituent in addition is oleoresins. Ginger contains fats, waxes, carbohydrates, vitamins and minerals. Ginger rhizomes also contain a potent proteolytic enzyme called zingibain.<sup>[15]</sup>

Besides these, ginger also contains several nutrients. Macronutrients like protein, fat, carbohydrates, iron, calcium, phosphorus and different trace minerals like zinc, copper, manganese, chromium are present in ginger.<sup>[16]</sup> It is a rich source of various vitamins also, like thiamine (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), vitamin C, Vitamin E and folate (B9).<sup>[17]</sup>

### Pharmacological properties according to Ayurveda<sup>[18]</sup>

Sheetaprashamana - Relieves cold

Shothahara - Useful in oedema, reduces inflammation

Vedanasthapana	- Relieves pain
Nadiuttejaka	- Having capacity of stimulating nerves
Vatashamaka	- Pacify vata, thus useful in relieving pain
Rochana	- Increases desire for food and relish
Deepana	- Enhance agni
Pachana	- Act as digestant, thus improves digestive power
Triptighna	- Relieves early satiation
Vatanulomana	- Mobilizes morbid vata in downward direction, thus relieves constipation
Shoolaprashamana	- Relieves pain
Arshoghna	- Useful in hemorrhoids
Bhedana	- Piercing
Grahi	- Useful in diarrhoea
Hridya	- Useful in cardiac disorders
Svarya	- Beneficial to the voice
Shleshmahara	- Pacify kapha dosha, thus beneficial in kaphaja vikara
Shwasahara	- Useful in dyspnea, asthma
Vrishya	- Act as aphrodisiac
Uttejaka	- Stimulant
Jwaraghna	- Useful in fever

**Hypothesis suggesting efficacy of shunthi in sutika makkal:** As quoted earlier any kind of pain is thought to occur due to vitiation of vata dosha. Drugs which are usna in virya and madhur either by rasa or vipaka, pacify vata dosha and shunthi possess all these properties. Besides this, shunthi is also vatanulomaka, i.e. it mobilizes morbid vata in downward direction, thus relieves constipation and hence also gives relief in flatulence. Due to its vatashamaka and vatanulomaka property it eases retention of urine also, which occurs due to pain and accumulation of morbid vata. Another fact about shunthi is that it inhibits cyclooxygenase enzyme, which is responsible for the production of prostaglandins from arachidonic acid. Prostaglandins causes smooth muscle contraction that leads to development of pain, thus shunthi can be very useful in relieving pain by inhibiting the synthesis of prostaglandins. In addition to these, the immunomodulatory action of shunthi is also a boon for sutika as all her dhatus decreases and she becomes languid or exhausted because of the development of fetus, her body becomes weak owing to labour pains and evaporation of

kleda and loss of blood. Her digestive power, vitality and strength also decreases, which may be improved by shunthi due to its deepana and pachana property.

### Scientific research supporting the hypothesis

**Antispasmodic effect**<sup>[19]</sup>: The antispasmodic effect of *Z.officinale* is evident in vitro studies on animal intestine and was revealed to be due to its anticholinergic, antihistaminic, antiserotonergic or calcium channel blocking effect.

**Anti-inflammatory action**<sup>[20]</sup>: Ginger contains potent anti-inflammatory compounds called *gingerols*. One of the mechanisms by which ginger exerts its effect could be related to inhibition of prostaglandin and leukotriene biosynthesis.

**Antimicrobial action:** Ginger has broad range of antimicrobial activity against both gram positive and gram negative bacteria and fungi. In vitro studies have shown that active constituents of ginger inhibit multiplication of colon bacteria, these bacteria ferment undigested carbohydrates causing flatulence, this can be counteracted with ginger.<sup>[21]</sup> It has strong antibacterial activity and to some extent antifungal properties.<sup>[22]</sup> Ginger inhibits *Aspergillus* sp, a fungus known for the production of aflatoxin, a carcinogen.<sup>[23]</sup>

**Effect on Digestive system:** Some active components of ginger are reported to stimulate digestion, absorption, relieve constipation and flatulence by increasing muscular activity in the digestive tract.<sup>[24]</sup> It reduces nausea and vomiting also.<sup>[25]</sup> In the another study it has been found a good suppressant of gut- colic and diarrhea.<sup>[26]</sup> Some constituents of ginger inhibit the growth of some colon bacteria like *Escherichia coli*, *Proteus* species, *Staphylococci*, *Streptococci* and *Salmonella*.<sup>[27]</sup>

**Immunomodulatory action:** Ginger essential oil showed the improvement in humoral immune response in immune suppressed mice.<sup>[28]</sup>

### CONCLUSION

Medicinal plants are a source of great economic value throughout the world, shunthi is one of them. From above discussion it can be concluded that shunthi can be very useful in relieving sutika makkal symptoms. It relieves pain due to its cyclooxygenase enzyme inhibiting and calcium channel blockade activity. It relieves flatulence due to its prokinetic activity as well as inhibiting bacterial colonization in gut. Further it helps sutika in regaining her strength by its immunomodulatory action and by improving her digestive power.

From Ayurvedic point of view, it can be said that shunthi is helpful in sutika makkal due to its vatashamaka, vatanulomaka, deepana and pachana property.

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