



GARBHA CALANA AND IT'S TREATMENT

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ABSTRACT

Garbha Calana, the clinical condition explained in *Haritha Samhitha* describes in detail the treatment modalities that can be tried out in the condition where the fetus starts detaching from its position inside the womb. Almost all the drugs explained in this context are having similar properties like anti-inflammatory, anti-spasmodic, antimicrobial, and haemostatic action. All these properties are having an added effect on a drug used in the context of treatment of abortion. Most of the drugs are having *Sita virya*, which will act like a *Sthambhana* and will curtail the process of abortion. For each month specific groups of drugs are being explained. Some of the drugs like *Madhuka* and *Nagakesara* are being repeatedly used. The method of administration of the drugs is in the *kalka* form along with *Ksheera*. Milk is a having properties like haemostatic, and anti-inflammatory action.

Keywords: *Garbha Calana, Madhuka, Nagakesara*

INTRODUCTION

Garbha Calana is a condition in which the movement of the fetus from its normal position takes place, with the word *Calana* meaning to move\displacement. This condition can be considered a warning sign of

abortion or the process of abortion itself. This particular condition and its treatment modalities have been explained in *Haritha Samhitha*. *Acarya Haritha* had explained about a group of three drugs for eight

months. The month-wise treatment highlights the constant approach from the physician to stabilize the fetus and prevent the process of abortion. *Garbha Calana* can be considered as a condition of threatened abortion.

Drugs explained in the treatment of Garbha Calana and its therapeutic implications

MADHUKA^[1]:

Botanical Name: *Glycyrrhiza glabra*

Family: *Leguminosae*

Rasa: *Madhura Veerya: Seeta*

Guna: *Guru, Snigha Vipaka: Madhura*

Karma: *Vatahara, Kaphavardhaka, Vrsya, Sukrala*

Useful part: Roots

"Universal panacea in ayurvedic medicine" since all the parts of this tree are found to possess pharmacotherapeutic properties.

Pharmacological studies proved that *Madhuka* possesses a wide range of biological activities such as antiulcer, anti-inflammatory, antioxidant, and antidiabetic activities. Inflammation is a complex response of a body to external stimuli. The formation of inflammatory leukocytes in this process leads to the excess generation of free radicals which alters the cellular function and damages the organs by initiating and promoting various diseases. Several scientific studies on the ethanolic extract of *Madhuca* bark and seeds had proven anti-inflammatory activity^[2]. The immunosuppressant activity of *M. longifolia* was also proved. Both immunosuppressant and anti-inflammatory action of *Madhuca* will curtail the process of abortion by preventing the product of conceptus to get detached from the decidua. It constitutes of oleanic acids, α -spinasterol, α -amyrin acetate, erythrodiol monocaprylate betulinic acid, α -terpeniol, and sesquiterene alcohol, arachidic, oleic, linoleic, myristic, palmitic and stearic acids. It is a rich source of polysaccharides' which on hydrolysis produces D-galactose, D- glucose, Larabinose, L-rhamnose, and D- xylose. In addition to this, it also contains 4.4-7% protein and essential minerals like calcium, potassium, phosphorus, magnesium, copper, and iron in abundance. Amino acid content includes lysine, arginine, aspartate, glutamate, threonine, valine, trypto-

phan, isoleucine, leucine, and proline. It is also a rich source of anthocyanins, betains, and salts of malic and succinic acid. So *Madhuca* is a rich source of all the components for fetal nourishment. Fresh juice obtained from the flower benefits arresting bleeding, thus by prevents the mechanism of abortion. Also, the antispasmodic activity of flowers which had already been proved helps to relax the uterine muscles and thus helps in sustaining the pregnancy.

MRDHVIKA\ DRAKSA^[3]

Botanical Name: *Vitis vinifera*

Family: *Vitaceae*

Rasa: *Madhura Virya: Sita*

Guna; *Guru, Snigdha, Mrdu Vipaka: Madhura*

Karma: *Vatapitta Samana, Garbhasthapana*

Parts Used: Dried fruits.

Draksa is having diuretic, aphrodisiac, and haematinic actions. Arginine found in the pulp of the fruit is a semi-essential amino acid release of nitric oxide which relaxes the walls of the blood vessels and thereby improves circulation. So, in the case of placental insufficiency due to constriction of blood vessels, it will be a good choice. It also helps to strengthen the female reproductive system. A grape seed extract has antioxidant and free radical scavenging. Alanine has been shown to help protect cells from being damaged. So effective in the case of Placental infraction as a reason for abortion^[4] Grapes are rich in stilbenoid, flavonoids, proanthocyanidins, hydroxybenzoic acid, dan hydroxycinnamic acid, polyphenols, anthocyanins, flavonols, stilbenes, phenolic acids, protein, fats, and vitamins C. Skin grape aqueous extract (*Vitis vinifera* L.) could prevent increasing systolic blood pressure so effective in case of pre-eclampsia like situation if it goes uncontrolled can eventually lead to abortion^[5].

CANDANA^[6]

Botanical Name: *Santalum album*

Family: *Santalaceae*

Rasa: *Katu, Thikta Veerya: Seeta*

Guna: *Laghu, Rooksha Vipaka: Katu*

Karma: *Rakta pitta Samana, Roopana, Sodhana*

Useful part: *Kanda*.

Major constituents are santalols (C₁₅H₂₄O), bergamotols, and several of their stereoisomers, whereas minor constituents include lanceol, nuciferol, bisabolol, and the sesquiterpene Santalols have been reported to possess a significant anti-inflammatory property, also having antioxidant properties. So effective in the case of any sort of abortive process due to infections in the genital tract. Sandalwood is an astringent and helps to resolve mucous congestion. Sandalwood oil helps to restore the mucous membrane and minimise the risk of infection. It has been used for years for genitourinary tract infections e.g., Cystitis and gonorrhoea^[7].

RAKTA CANDANA

Botanical Name: *Pterocarpus santalinus*

Family: *Leguminosae*

Rasa: *Kasaya, Thikta Veerya: Seeta*

Guna: *Rooksha, Laghu Vipaka: Katu*

Karma: *Kapha pitta Samana, Sthambana*

A wide array of biological activities and potential health benefits of *P. santalinus* have been reported, including antioxidative, antidiabetic, antimicrobial, anticancer, and anti-inflammatory properties, and protective effects on the liver, gastric mucosa, and nervous system. Among these antimicrobial, anti-inflammatory and antioxidant actions are said to have a protective function on *Garbha*. The major bioactive compounds present in the heartwood of *P. santalinus* are santalin A and B, savinin, calocedrin, pterolinus K and L, and pterostilbenes. Phytochemical analysis of the plant showed the presence of carbohydrates, flavonoids, terpenoids, phenolic compounds, alkaloids, saponins, tannins, and glycosides^[8]

USIRA^[9]

Botanical Name: *Vetiveria zizanioides*. Linn

Family: *Poaceae*

Rasa: *Thikta, Madhura Veerya: Seeta*

Guna: *Rooksha, Laghu Vipaka: Katu*

Karma: *Kapha Pitta Samana, Rakta Rodhaka*

Parts Used: Roots

It possesses antispasmodic, antihypertensive, anti-inflammatory, antioxidant, and antibacterial activities.

The chemical constituents present in the plant are vetiverol, vetivone, khusimone, khusimol, vetivene, khositone, terpenes, benzoic acid, triene-4-ol, β-humulene, epizizianol, vetivenyl vetivenate, isokhusimol, β-vetivone, and vetivazulene. The plant extract of *Vetiveria zizanioides* shows antioxidant activity by scavenging free radicals in vivo. Free radicals cause various diseases by DNA damage and lipid by pre-oxidation^[10]

NAGAKESARA^[11]

Botanical Name: *Mesua ferrae*. Linn

Family: *Guttiferae*

Rasa: *Kasaya, Thikta Veerya: Alpa Ushna*

Guna: *Laghu, Rooksha Vipaka: Katu*

Karma: *Sthambana, Sodhana, Deepana*

It is said to have antioxidant, analgesic, anti-inflammatory, anti-spasmodic, anti-microbial, diuretic, immunomodulatory actions

Its anti-inflammatory action is due to the inhibition of COX enzymes. Along with its immunomodulatory effect will protect the fetus against any sort of allo antibodies. It contains constituents like phenylcoumarin, xanthenes, triterpenoides, mesuol, mesuagin, mammesein, mesuaferrol, and mesuanic acid. Studies have proven its haemostatic effect in case of bleeding, so can be the drug of choice in case of abortion. Also been proven to increase epithelization in case of wounds or ulcers. Flowers of *Nagakesara* are proven to balance the level of oestrogen and progesterone in the female body thus helping in normal pregnancy outcomes^[12].

MUSIKA KITTA:

Musika thaila is a good treatment of choice for Genital prolapse for its therapeutic effect in strengthening *Garbhasaya*. Similarly, it's *kitta* can also be having similar action

DHATAKI^[13]

Botanical Name: *Woodfordia fruticosa*

Family: *Lythraceae*

Rasa: *Kasaya, Katu Veerya: Seeta*

Guna: *Laghu, Rooksa Vipaka: Katu*

Karma: *Kaphapitta Samana, Raktapitta Samana*

The flowers of *Woodfordia fruticosa* are recorded to possess a potent therapeutic effect. The chemical

constituents present in it are phenolics, hydrolysable tannins, flavonoids, lupeol, betulin, betulinic acid, oleanolic acid, ursolic acid, woodfordia D, and Woodfordin E-I. The flowers are proven to have antimicrobial, Immunomodulatory, Antioxidant, anti-inflammatory actions^[14].

DADIMA:^[15]

Botanical Name: *Punica granatum*

Family: *Puniaceae*

Rasa: *Madhura, Kasaya Anurasa Veerya: Ushna*

Guna: *Laghu, Snigdha Vipaka: Madhura*

Karma: *Vatapitta Samaka, Sukrala, Sonitha Sthapana*

It is having potent anti-inflammatory and hemostatic action. It inhibits both cyclooxygenase and lipooxygenase enzymes. It is considered as having the *Rakta Sodhana* action. It is said to have anti-oestrogenic, anti-proliferative, and anti-microbial actions. It also inhibits free radicals by its antioxidant action. Antioxidant action is due to the presence of flavonoids, flavones, and anthocyanins.

It contains flavanoids, ellagitannin, punicalagin, ellagic acid, vitamins, minerals, glucose, sucrose, and organic acids like citric, mallic, tartaric, and ascorbic acids^[16]

GAIRIKA:

It is a very commercially and easily available drug in the market. It is chemically Fe₂O₃. And one among the *Uparasas* explained in *Rasa Sastra*. There are three varieties of *Gairika* being explained in *Ayurveda*, *Swarna Gairika*, *Pasana Gairika* and *Samanya Gairika*.

It is having a *Rakta Sthambana* action. So can be useful in the case of abortion. Its dose is in the range of 250mg-500mg^[17].

KRISHNA MRITTIKA:

The constituents present in *Mrittika* and properties vary according to the region. As per *Charaka Acarya*, *Krishna Mrittika* is having *Madhura Rasa, Snigdha, and Guru guna*. It is having *Madhura Vipaka and Seeta Virya*. As per *Bhavaprakasa* it is being used for *Daha, Raktaja vikara, Rakta pradara, Kapha pitta vikaras*. It is having various therapeutic properties like *Sothaghna, and Soolaghna*.

The *Mrittika* is to be collected from an area away from industries, pesticides, and other chemicals contaminated areas^[18].

GOMAYA:

It's having anti-microbial action. It contains various nutritional components like minerals, vitamins, potassium, and nitrogen^[19].

SAMANGA\MANJISTA^[20]

Botanical Name: *Rubia cordifolia*

Family: *Rubiaceae*

Rasa: *Kasaya, Thikta, Madhura Virya: Ushna*

Guna: *Guru Vipaka: Katu*

Karma: *Kaphapittaghna*

Parts Used: *Roots*

It's having wound healing, antibacterial, antioxidant, anti-inflammatory, analgesic, and anti-platelet activating activities.

It contains Chemical constituents like glycosides, naphthoquinones, glycosides, terpenes, -iridoids, carboxylic acids, purpurin, Manjistin, and xanthopurpurin.

As per *Acarya Charaka* it's having *Varnya, Visaghna and Rasayana* actions.^[21]

PADMAKA:^[22]

Botanical Name: *Prunus cerasoides*

Family: *Rosaceae*

Rasa: *Kasaya, Thikta Virya: Seeta*

Guna: *Laghu Vipaka: Katu*

karma: *Kaphapittaghna, Rakta Sthambaka, Garbhashthapana*

Parts Used: *Bark, Seeds*

It contains flavone glucoside piddumin-A, bitastigmasterol, ursolic acid, prunetinoside, glucogenkwanin, and neosakuranin.

It is the best anti-abortion drug. Used in the treatment of bleeding disorders, poison. It is having *Rasayana* action^[23].

MUSTAKA:^[24]

Botanical Name: *Cyperus rotundus*

Family: *Cyperaceae*

Rasa: *Thikta, Katu, Kasaya Virya: Seeta*

Guna: *Laghu, Rooksha Vipaka: Katu*

Karma: *Kapha pittaghna, Deepana, Grahi, Lekhana*

Useful part: *Tubers*

It is having anti-androgenic, anti-inflammatory, and antioxidant, actions. It is having a high concentration of active ingredients in the form of essential oils, phenolic acids, ascorbic acids, and flavonoids.

Major constituents are cyperolone, cyperone, cymol, camphene, copaene, cyperene, cyperenone, cyperol, caryophyllene, cyperotundone, isocyperol, limonene, linoleic acid, mustakone. –

The antioxidant potential of the plant extract may be due to the high content of polyphenols, flavonoids, Vt C

It is effective in reducing tissue swelling, and oozing of tissue fluids and relieves inflammation. It is also proven to have anti-platelet, anti-microbial, and anti-spasmodic activities^[25].

CONCLUSION

Garbha Calana, a unique concept in *Ayurveda* described in detail the various treatment modalities that can be adopted safely and effectively for the treatment of abortion. There are various reasons for abortion, and it may vary from each trimester. In an overview, we can see that most of the drugs in this treatment modality are having anti-inflammatory action. When we are considering the process of abortion, the first step may be the process of inflammation at the placental site. So, drugs that are anti-inflammatory actions will have a strong effect to stop abortion. Most drugs are having *Seeta virya*. As per our sastra, *Seeta virya* will have a *Sthambana* action and will stop bleeding and thereby stopping the mechanism of abortion. Some drugs like *Madhuka* and *Musta* are proven to maintain the hormonal balance in the body, especially Oestrogen and Progesterone. Anti-spasmodic action of the drugs explained in this context will reduce the excessive uterine contraction leading to abortion. So, in total, we can say drugs explained in the treatment of *Garbha Calana* in *Haritha Samhitha* have opened a new window in the treatment of abortion.

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