

ASHOKA (SARACA INDICA LINN.): A PERSUASIVE HERB FOR MENORRHAGIA

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ABSTRACT :

Menorrhagia is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. Although heavy menstrual bleeding is a common concern among premenopausal women, most women don't experience blood loss severe enough to be defined as menorrhagia. *Ashoka* (*Saraca indica* Linn., Family: Fabaceae (Papilionaceae), subfamily Caesalpinaceae. *Ashoka* is a tree of 6-9 meters height with glabrous branches. It is commonly known as Sorrow-less tree or Ashok tree. It is found in West Bengal, Southern India and Central and Eastern Himalaya, Western Peninsula, Burma, Ceylon and Malaya. It is well described in *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Chikitsa granthas* and *Nighantus*. *Ashoka* is having *Laghu*, *Ruksha Guna*, *Kashaya*, *Tikta Rasa*, *Shita Virya* and *Katu Vipaka*. By the virtue of above properties it is *kaphapittashamaka*, *raktastambhana*, *krimighna*, *ashmarinashana* and *vedanasthapana*. Due to the presence of bioactive compounds tannin and catechol. Active phenolic glycoside, helmatoxylin cures urinary discharges, dyspepsia, thirst, burning sensation, diseases of the blood and effect of fatigue, enlargement of abdomen, colic, piles, bloody discharges from the uterus, internally in cases of menorrhagia, allied menstrual troubles, leucorrhoea. This review focuses on the detail botanical description, phytochemical constituents, pharmacodynamics, medicinal uses and pharmacological studies.

Keywords : Ayurveda, *Ashoka*, *Saraca indica*, *Vedanasthapana*, Menorrhagia, *Hemapushpa*.

INTRODUCTION: Menorrhagia is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. Although heavy menstrual bleeding is a common concern among premenopausal women, most women don't experience blood loss severe enough to be defined as menorrhagia. With menorrhagia, every period you have causes enough blood loss and cramping that you can't maintain your usual activities. If you have menstrual bleeding so heavy that you dread your period, talk with your doctor. There are many effective treatments for menorrhagia. *Ashoka* (*Saraca indica* Linn.) is commonly known as Ashok tree. Properties and action of *ashoka* are *raktastambhana*, *krimighna*, *ashmarinashana*

and *vedanasthapana*. The drug is used for anthelmintic, antidysenteric, antidote to poisons, litholytic, diuretic, anti-inflammatory and uterine tonic. It cures itching, sore throat, bronchitis, indigestion, heaviness, ulcers, boils, psoriasis, inflammations, leprosy, anaemia, leucoderma, elephantiasis-filariasis, urinary discharges, dyspepsia, thirst, burning sensation, diseases of the blood and effect of fatigue, enlargement of abdomen, colic, piles, bloody discharges from the uterus, internally in cases of menorrhagia, allied menstrual troubles, leucorrhoea, tumours, fractures of the bones strengthens the teeth and dentature, astringent to the bowels, alexiteric, demulcent, emollient, it beautifies the complexion, decoction of the bark-preparation

in milk-is orally given as a specific recommendation (asokatvak ksirapaka), besides use of bark in other forms in this kind of menstrual disorders in female patients.

LITERATURE REVIEW:The literary review of the *Ashoka* was started right from the *Vedas* up to recent research works to obtain thorough knowledge of drug. On comprehensive review of Ayurvedic classics it was found that *Ashoka* is described in *Vedas*, *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*.

In *Charaka Samhita*, *Ashoka* is described in kashayaskandha and vedanasthapana mahakashaya¹. In *Sushruta Samhita*, it is described in rodhradi gana². Ashoka-ghrita prescribes in vatavyadhi³. In *Ashtanga Hridaya*, Vagbhata mentioned rodhradi gana^{4,5}.

Ashoka is mentioned in *Nighantus* also. In *Kaideva Nighantu*, described for *dosha*, *apachi*, *trisha*, *daha*, *krimi*, *shosha* and *vishaghna*⁶, *Bhavaprakash Nighantu*, described for *dosha*, *apachi*, *trisha*, *daha*, *krimi*, *shosha* and *vishaghna*⁷, *Shodhala Nighantu*, its properties and uses in raktapradara are described, *Dhanvantari Nighantu* described for *dosha*, *apachi*, *trisha*, *daha*, *krimi*, *shosha* and *vishaghna*. In *Raj Nighantu*, it is described as *hridaya*, *gulmashulodaradhmaanahara* and *krimihara*⁸.

Ashoka is also mentioned in *Chikitsa Granthas* like *Chakradatta* (CD, *Asrigadara chikitsa*, 58.5) and *Bhavamishra*, in his section *Bhavaprakash*, *madhyamakhandha* mentions *Ashokakshiram* in *raktapradara*⁹. *Shivadasa* described the seeds of *ashoka* in *mutraghata* and *ashmari*. In *Bhashajya Ratnavali*, *ashokarishta-ashokaghritam* is described

for *jvara*, *raktapittarsha*. In *Vrinda Madhava* it is mentioned that cold milk boiled with the decoction of *ashoka* bark is used in *pradara* (menorrhagia)(VM.63.5).

Scientific Classification¹⁰

Kingdom	:	Plantae
(Unranked)	:	Angiosperms
(Unranked)	:	Eudicots
(Unranked)	:	Rosids
Order	:	Fabales
Family	:	Fabaceae
(Papilionaceae)	:	
Genus	:	<i>Saraca</i>
Species	:	<i>indica</i>

Vernacular names

Classical Name	:	<i>Ashoka</i>
Sanskrit name	:	<i>Ashoka</i> , <i>Hemapushpa</i> , <i>Tamrapallava</i> .

Hindi	:	<i>Ashok</i>
English	:	<i>Ashoka Tree</i>
Bengali	:	<i>Ashok</i>
Gujarat	:	<i>Ashok</i>
Marathi	:	<i>Ashok</i>
Telugu	:	<i>Ashokasu</i> , <i>Ashokamu</i>
Tamil	:	<i>Ashogham</i>

Synonyms of *Ashoka*¹¹

- *Ashoka* – Shoka means grief. *Ashoka* means one that relieves pain and grief of women.
- *Hemapushpa* - flowers of golden colour.
- *Tamrapallava* – tender leaves have coppery red colour.
- *Kankeli* – bears pleasant.
- *Gandhapushpa* – fragrant.
- *Pindapushpa* – in dense clusters.
- *Madhupushpa* – in spring.
- *Stripriya* – liked by women.

Botanical Description of *Ashoka*¹²

Ashoka is a tree of 6-9 meters height with glabrous branches.

Distribution & Habitat

It is found in West Bengal, Southern India and Central and Eastern Himalaya, Western Peninsula, Burma, Ceylon and Malaya.

Habit: It is a tree.

Leaves: are 15-25 cm. long; rachis glabrous, corky at the base, petioles very short; stipules intrapetiolar, completely united, 10-13 by 6 mm., scarious, ovate-oblong, obtuse, parallel nerved. Leaflets 4-6 pairs, 10-20 by 3-5.7 cm. oblong-lanceolate, obtuse or acute, quite glabrous, base rounded or cuneate, slightly oblique; petiolules 4.5-6.5 mm. long, stout, wrinkled; stipels deciduous.

Flowers: are with fragrant, numerous, in dense axillary corymbs 7.5-10 cm. across; peduncles stout; pedicles 8-13 mm. long, red, glabrous; bracts ovate subacute; bracteoles 2, appearing like a calyx, 4 mm. long, spatulate-oblong subacute ciliolate, amplexicaul, coloured. Calyx passing from yellow to orange and finally red; tube 1.3-2 cm. long, cylindrical, solid at the base; segments 7 or 8, oblong or obovate-oblong, 1 cm. long. Petals 0. Stamens 7-03-8, much exerted; filaments filiform, thrice as long as the calyx-segments; anthers purple. Ovary pubescent, especially on the sutures; anthers purple. Style curved into a ring.

Pods: are black, 10-25 by 4.5-5 cm., Linear-oblong, tapering to both ends, compressing, glabrous, veined.

Seeds-: are 4-8 ellipsoid-oblong, 3.8 cm., slightly compressed.

Bark: The bark is externally grayish-brown and rough to touch; it is white when freshly cut from the tree, but turning red after exposure to the air. The taste is mildly astringent and acidulous.

Wood: is soft, reddish brown. Bark is distinguishing by the presence of warty protruberances and transverse lenticels on

the its outer surface, septate and non-septate crystal fibres and prism of calcium oxalate.

Flowering and fruiting time: is from spring to autumn seasons.

Phytochemical Constituents of Ashoka

Bark: contains tannin and catechol. Active phenolic glycoside has been found to vary depending upon the place, time of collection and storage condition. Bengal variety is considered as best. It contains helmatoxylin and also iron and other substances.

Pharmacodynamics¹³

Rasa : *Kashaya, Tikta*

Guna : *Laghu, Ruksha*

Virya : *Shita*

Vipaka : *Katu*

Doshakarma : *Kaphapittashamaka.*

Ashoka is having *shitata, snigdha guna* and *kashaya rasa* (K.N.), *ashoka* is *shitata guna, tikta, kashya rasa* (B.N.) and *ashoka* is *shitata guna, tikta, kashya rasa* (D.N.).

Medicinal Uses of Ashoka:

The plant is useful as an astringent drug which is generally recommended as a uterine tonic and frequently used in menorrhagia and uterine affections.

The bark is useful as bitter and acrid; it is cooling to the bowels, anthelmintic, antidysenteric, antidote to poisons¹⁴, litholytic, diuretic, anti-inflammatory and uterine tonic. It cures itching, sore throat, bronchitis, indigestion, heaviness, ulcers, boils, psoriasis, inflammations, leprosy, anaemia, leucoderma, elephantiasis-filariasis, urinary discharges, dyspepsia, thirst, burning sensation, diseases of the blood and effect of fatigue, enlargement of abdomen, colic, piles, bloody discharges from the uterus, internally in cases of menorrhagia¹⁵, allied menstrual troubles, leucorrhoea, tumours, fractures

of the bones, strengthens the teeth and dentature, astringent to the bowels, alexiteric, demulcent, emollient, it beautifies the complexion, decoction of the bark-preparation in milk-is orally given as a specific recommendation (asokavak ksirapaka), besides use of bark in other forms in this kind of menstrual disorders in female patients¹⁶.

The seeds are useful in urinary discharges, calculus and diuretic.

The flowers are pounded and mixed with water are used for the treatment of haemorrhagic dysentery. The powder of dried flowers given in diabetes.

The bark, flowers and fruits are prescribed in combination with other drugs for the treatment of snake-bite and scorpion-sting.

pharmacological activity of *Saraca asoca*

• Antioxytotic Activity

Oxytotic activity of the plant was seen in rat and human isolated uterine preparations. Estrogenprimed or gravid uterus was more sensitive to the action of the alcoholic extract. Pentolinium bitartrate completely blocked the oxytotic action. Seed extract is found effective against dermatophytic fungi. In vitro tests on rat uterus preparation, extracts of *S. asoca* did not show oxytotic activity. *S. asoca* has been tested twice previously with negative results and once with positive results¹⁷.

• Antimenorrhagic Activity

Saraca asoca bark in India, used as a uterine sedative and hot water extracts administered to human adult female stimulates the uterus similar to ergot, but without producing tonic contraction. Also employed in menorrhagia, as an emmenagogue, uterine sedative, uterine affections as well as used in several

preparations related to female troubles^{18,19,20,21}.

• Anticancer Activity

The anticancer principle from *Saraca asoca* flowers indicated 50 percent cytotoxicity (in vitro) in Dalton's lymphoma ascites and Sarcoma-180 tumour cells at a concentration of 38 mug and 54 mug respectively, with no activity against normal lymphocytes but preferential activity for lymphocytes derived from leukemia patients²².

• Antimicrobial Activity

Bark extracts of *Saraca asoca* (Roxb.) de Willde were investigated for in vitro antibacterial activity against *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus vulgaris*, *Bacillus aureus* and *Klebsiella pneumoniae* at 4 mg/ml using agar well diffusion method. The ethanol and distilled water extracts showed significant broad-spectrum antibacterial activity²³.

CONCLUSION: On comprehensive review of Ayurvedic classics it was found that *Ashoka* is described in *Vedas*, *Charaka Samhita*, *Sushruta Samhita*, *Ashtangahridaya*. Some synonyms of *ashoka* like *hemapushpa*, *tamrapallava* described in various *Nighantu*. *Ashoka* (*Saraca indica* Linn., Family: Fabaceae (Papilionaceae), subfamily Caesalpiniaceae is commonly known as Ashok tree, is a traditional Ayurvedic medicine, has been used for centuries as a urinary discharges, dyspepsia, thirst, burning sensation, diseases of the blood and effect of fatigue, enlargement of abdomen, colic, piles, bloody discharges from the uterus, internally in cases of menorrhagia, allied menstrual troubles, leucorrhoea.. *Ashoka* is having *Laghu*, *Ruksha Guna*, *Kashaya*, *Tikta Rasa*, *Shita Virya* and *Katu Vipaka*. By the virtue of

above properties it is *kaphapittashamaka*, *raktastambhana*, *krimighna*, *ashmarinashana* and *vedanasthapana*. Mode of action is due to *kashaya rasa*, it checked the excess bleeding, due to *shita virya* pacifies the *pitta dosha* and due to *katu vipaka*, *laghu*, *ruksha guna* pacifies *kapha dosha*. Doses of bark powder is 1-3 gms., Seeds powder is 1-3gms., flowers powder is 103 gms., bark is 12-24 gms., for decoction. Part used is bark, flowers and seeds. Different specific formulations used in menorrhagia are *Ashokarishta*, *Ashokaghrita*, *Ashokaksiram* (*Ashokatvak Kshirapaka*), *Chandanadi taila*, *Nyagrodhadi kashaya*.

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