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MUSHKAKADI GANA AND ITS PRACTICAL UTILITY

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ABSTRACT

The Dravyaguna vijnana is embedded in all the Ayurvedic scriptures. These scriptures give detailed explanations about the drugs. The drugs were classified based on pharmacological actions. The grouping of the drugs not only helps to remember but also to help in the treatment aspect. Ayurveda is a treasure of "Kalpas" which have more than one drug among which "Mushkakadi Gana" is clinically important and used by practitioners. Mushkakadi gana has eleven drugs named *Mushkak, Palash, Dhav, Chitrak, Madanphal, Kutaj, Shinshapa, Snuhi, Haritaki, Vibhitaki, Amalaki* respectively. According to Acharya Sushruta, the indications of Mushkakadi Gana are *prameha, arsha roga, pandu roga, ashmari* while according to Acaharya Vagbhata, the indications are *Gulma roga, ashmari, pandu roga, medoroga, arsha, kapha roga, shukra roga*. The present study is aimed to critically review Mushkakadi Gana ingredients and their practical application with probable modes of action in different clinical conditions.

KEYWORDS: Mushkakadi Gana, Vagbhat, Prameha, Arsha, Ashmari, kapha-shukra vikara.

INTRODUCTION

Acharya Vagbhat in Ashtanga Hridaya sutra sthana[1] explained numerous drugs in the form of a grouping called Varga or ganas. The drugs are classified on the basis of pharmacological actions. This is why Acharya Vagbhata has specially given one adhyaya "Shodhanadi Gana Sangraha" for Gana i.e., a group of drugs with some cumulative action as a group. He has explained 33 Ganas among which "Mushkakadi Gana" is discussed here. According to Acharya Sushruta, the same drugs are described in sutra sthana[2] with almost therapeutic indications. Mushkakadi gana has eleven drugs named *Mushkak, Palash, Dhav, Chitrak, Madanphal, Kutaj, Shinshapa, Snuhi, Haritaki, Vibhitaki, Amalaki* respectively. The

indications are *Gulma roga, ashmari, pandu roga, medoroga, arsha, kapha roga, shukra roga*. As most of the drugs of Mushkakadi Gana having katu, kashaya rasa with Katu vipak and Ushna virya. This gana is very useful in the management of diabetes mellitus and urolithiasis. As most of the drugs of Mushkakadi Gana have katu and kashaya rasa with katu vipak and ushna virya. It is very useful in diabetes mellitus and urolithiasis. These drugs show antioxidant, antimicrobial, antiulcer, hepatoprotective, anti-helicobacter pylori, and helps in anemia, obesity, etc. It balances kapha and vata doshas in the body and detoxifies the full body.

MATERIAL AND METHOD

The literature about Mushkakadi Gana has been reviewed from Ayurveda and research papers. Different Samhitas and nighantus were studied thoroughly. Articles related to the subject were searched and studied in different journals. This review is mainly focused on practical application & probable mode of action of Mushkakadi Gana.

Plants Description

1. **Mushkak (*Schrebera swietenioides* Roxb**.)- It is amedium sized tree. Leaves are pinnately lobed. Leaflets—3-7 in number, lanceolate, oblong or lanceolate- oblong, 7.5-17 cm long, the blade gradually narrows, with a fine petiole and the tip is slightly elongated. Flowers - whitish, outer shell is bell shaped and inner shell is umbrella shaped. Fruit — drooping, pear-shaped, 6 cm. long and 2.5 cm. becomes wide. Seeds — There are 2-4 angular oblong seeds in each cell. Properties and use-Ghee prepared from its root is beneficial in leprosy. (Su. Chi. 9). Its alkali has been considered good and has been said to be beneficial in mouth diseases and duodenum etc.
2. **Palash (*Butea monosperma* Kuntze.)-** Its trees are of small or medium height and live in groups. The leaves are trifoliate, 10 to 20 cm. broad, smooth from above but soft below and with raised veins. Flowers are large, beautiful, blood orange which are often many together on leafless branches. It is called Kinshuk because it looks like a parrot's beak from a distance. Pod is 12.5–20 x 2.5–5 cm. large, on the front side contains one seed. Seeds are flattened, kidney-shaped, 25-38 mm. long, 16–25 mm. wide, 1.5–2.0 mm. Chemical composition – 18% flavorless oil in seeds, albuminous substance, sugar and in flowers Properties and use- Its seeds are vermicidal and useful in leprosy.
3. **Dhav (*Anogeissus latifolia* Wall.)** - It is found all over India except East Bengal and Assam. Its tree is of big or medium height. Bark-6 mm thick, smooth, whitish gray and

some pitted due to exfoliation of crust. Leaves are broad, oblong, ovate, 5-10 cm. long. Dark red colored leaves fall in February and the tree remains leafless till March-April. Flowers come from September to January. Fruits are flattened, bilateral, beaked and ripen from December to March. Its wood is very strong and flexible and is used for making car wheels and tool handles etc. Its trade name Axle-wood. Gum is obtained from this which can be used in place of acacia gum. Tannin is abundant in its bark and leaves. It is done in diarrhoea, flow, arsh, raktapitta, promeha and poisoning.

4. **Chitrak (*Plumbago zeylanica* Linn.)-** It is small-1.5-2 m. and is available for twelve months. They are often less visible in the summer days but become green in the rains. Leaves having stripes in length, opposite, up to 2.5 cm long., broad, elliptical, notched, smooth. Flowers are white. The fruits are elongated, green when raw, gray when ripe, filled with sticky hairs that stick together when broken and are sticky to the touch. Its root is 2-12 mm. thick, bloody brown in color. The dried root breaks immediately after breaking and remains whitish pink inside. Its taste is bitter. It is very useful in increasing appetite.
5. **Madanphal (*Randia dumetorum* Lam.) -** Its tree is short in stature filled with angular thorns. Bark is brown in color. Leaves are 2.5-5 cm. long, elongated from above and gradually becoming thinner towards the bottom. Flowers are greenish, white and fragrant with five petals. Fruits are of the size of wild figs, yellow when ripe. Seeds are like fenugreek seeds. Chemical organization-Saponin and Valerianic acid, wax, resin and pigment substances etc. are found in its fruit. It is used for emetic action.
6. **Kutaj (*Holarrhena antidysentrica* Wall.)** – It is medium size in height. Leaves are 12.5-25 cm long. The flowers are white. Pods are two together but not combined, 8 to 20-40 cm. thin, 8 mm. Seeds are called Indrayav and they are bitter in taste. This tree is called white kutaj or punkutaj. Wrightia tinctoria called stree Kutaj. Chemical composition is Conessine, Kurchin, Kurchisin etc. It is useful in treatment of diarrhoea, dysentery.
7. **Shinshapa (*Dalbergia sissoo* Roxb.)** – The trees are found in all over India and in the western Himalayas up to 1300 mt. Its tree grows and becomes huge. Its wood is strong. Beds and many other things are prepared from its wood. Its leaves are round, notched. The flowers are in very small clusters and the pods are long, thin and sticky. The seeds are small and are sold. Its wood is firm in color for blackness and redness. It is used in wound healing, worms etc.

8. **Snuhi (*Euphorbia nerifolia* Linn.)** – Its plant is 3-5 mt in height. Its branches are straight and fleshy. Its branches have thorns at different places and the thorns are 6-12 mm. It is purgative and used in abdomen, respiratory disorders.
9. **Amalaki (*Emblica officinalis* Gaertn.)** - Its tree is medium size, but the wild tree is tall and big. Bark-6 mm Thick light khaki colored and peeled. The wood is red in color and stronger. There is no essence in this. The leaves are similar to small tamarind leaves and greenish in color. When its old leaves fall in the spring, the tree appears leafless. At the same time it flowers and new leaves emerge. The flowers have fragrance like lemon blossom. The fruits are round, shiny and green. Oil emerges from the seeds. It is used as Rasayana, bleeding disorders and it is good for skin, nails, hairs.
10. **Haritaki (*Terminalia chebula* Retz.)** - It is a tree up to 50-80 feet tall. The bark is dark brown, often split lengthwise. Leaves are 3-8 inches long, 2-4 inches wide, oblong or oval. There are two large glands on the top of the petiole. The flowers are small, yellowish white. Fruits are 1-2 and long, oval, hard, which has (five) lines on its surface. They are green in raw and turn gray when cooked. Each fruit has one seed. Leaves fall in February-March, flowers come with new petals in April-May. Fruits are planted in winter. Ripe fruits are collected from January to April. They are used in swelling, wound healing, rasayan purposes.
11. **Vibhitaki (*Terminalia bellirica* Roxb.)** - Its tree is about 60-80 feet tall. Stem straight, oblong, dark brown and hard. Leaves 3-8 inches long, solitary, broad, ovate, obtuse, clustered at the tip of the branchlets. Flowers white or yellowish. Fruit is gray in color, hairy, spherical. Inside the fruit is a seed. In February-March, its leaves fall off and new copper-color leaves emerge. With that, flowers continue to emerge till May. It is also called "Vasant" because it flowers in spring. The fruits ripen by January-February. It is useful in swelling, pain, bleeding disorders, cough etc.

Table 1: Contents of Mushkakadi gana.

S. No.	Dravya	Botanical name	Family	Part used
1.	Mushkak[3]	*Schrebera swietenioides* Roxb.	Oleaceae	Bark, root
2.	Palash[4]	*Butea monosperma* Kuntze.	Leguminosae	Bark, seed
3.	Dhav[5]	*Anogeissus latifolia* Wall.	Combretaceae	Bark, niryas
4.	Chitrak[6]	*Plumbago zeylanica* Linn.	Plumbaginaceae	Moolatwak
5.	Madanphal[7]	*Randia dumetorum* Lam.	Rubiaceae	Fruit
6.	Kutaj[8]	*Holarrhena antidysentrica* Wall.	Apocynaceae	Twak, beej.
7.	Shinshapa[9]	*Dalbergia sissoo* Roxb.	Leguminaceae	Bark, root
8.	Snuhi[10]	*Euphorbia nerifolia* Linn.	Euphorbiaceae	Ksheera
9.	Amalaki[11]	*Emblica officinalis* Gaertn.	Euphorbiaceae	Fruit

10.	Haritaki[12]	*Terminalia chebula* Retz.	Combretaceae	Fruit
11.	Vibhitaki[13]	*Terminalia bellirica* Roxb.	Combretaceae	Fruit

Table 2: Properties of ingredients of mushkakadi gana.

S.No.	Dravya	Rasa	Guna	Virya	Vipaka	Dosha karma
1.	Mushkaka	Katu,tikta	Grahi	Ushna	Katu	Kaphavatashamak
2.	Palash	Katu,tikta	Laghu, ruksha	Ushna	Katu	Kaphavatashamak
3.	Dhav	Kashaya	Laghu, ruksha	Sheeta	Katu	Kaphapittashamak
4.	Chitrak	Katu	Laghu, ruksha	Ushna	Katu	Kaphavatashamak
5.	Madanphal	Kashaya, Madhur, tikta, katu	Laghu, ruksha	Ushna	Katu	Kaphavatashamak
6.	Kutaj	Tikta, Kashaya	Laghu, ruksha	Sheeta	Katu	Kaphapittashamak
7.	Shinshapa	Kashaya, katu, tikta	Laghu, ruksha	Ushna	Katu	Tridoshashamak
8.	Snuhi	Katu	Laghu, tikshna	Ushna	Katu	Kaphavatahara
9.	Amalaki	Amla Pradhan pancharasa	Laghu, ruksha	Sheeta	Madhur	Tridoshashamak
10.	Haritaki	Kashaya Pradhan pancharasa	Laghu, ruksha	Ushna	Madhur	Tridoshashamak
11.	Vibhitaki	Kashaya	Laghu, ruksha	Ushna	Madhur	Tridoshashamak

Therapeutic indications

- Prameha, arsha, ashmari, pandu roga, gulma, medo roga.

RESULT

Most of the drugs of Mushkakadi gana have katu, tikta rasa, laghu and ruksha guna, ushna veerya and katu vipaka, kaphavatashamaka. By the virtue of all the drugs, it act as kaphashamaka and it can be used in kandu, medoroga, kleda, shotha disorders.

DISCUSSION

The main objective of this study is mainly focused to find out the important properties of individual drugs and their possible effects on Mushkakadi Gana. Acharya Vagbhata states that drugs act via rasa, virya, vipaka, prabhava according to the one which is more potent/ powerful than the other. Mushkakadi gana has eleven drugs named *Mushkak, Palash, Dhav, Chitrak, Madanphal, Kutaj, Shinshapa, Snuhi, Haritaki, Vibhitaki, Amalaki* respectively. Based on the different physiochemical properties of Mushkakadi Gana, the probable mode of action can be understood as follows. Most of the drugs have katu, tikta rasa, laghu and ruksha guna, ushna veerya and katu vipaka, kaphavatashamaka. By the virtue of katu rasa the drug act as kaphashamaka and it can be used in kandu, medoroga, kleda, shotha disorders. By kashaya rasa the drug act as kaphashamaka, pittashamaka and it is helpful in adhmana, vataroga, hridapeeda, wound healing etc. As most of the drugs are having katu vipaka it can

be used as vatavardhaka and causes vibandha. In general, Mushkakadi gana dravyas act in prameha[14], medoroga, gulma roga, ashmari[15,16], arsha roga, pandu roga, kapha and shukra vikara. Ushna Virya increases metabolism (catabolism), agni deepana property of the Drugs. Most of the drugs in Mushkakadi Gana possess Katu Vipaka, which is jatharagnivardhak, deepan, pachan, shodhan & shoshan. By rasa, the Mushkakadi drugs help in pacifying Kapha-vata simultaneously and increase the agni. The formulation helps in maintaining the equilibrium of doshas by pacifying increased and vitiated dosha.

CONCLUSION

This study confirms that the ingredients present in Mushkakadi Gana show multiple pharmacological actions. Activities of the ingredients of Mushkakadi gana show its use as antipyretic, hepatoprotective, antihyperlipidemic[17], anti-inflammatory, antimicrobial & antioxidant properties. This review helps the researcher to explore this gana for more pharmacological activities of the Mushkakadi gana. The present study shows various therapeutic uses of Mushkakadi gana mentioned in Vagbhata and recommends that there is a huge scope of further scientific research on various therapeutic aspects of this important formulation.

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