MANAGEMENT OF GRIDHRASI WITH KUPILU: A CONCEPTUAL REVIEW

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ABSTRACT

Vatavyadhi comprises of many conditions with predominance of vatadosha. Gridhrasi being one important among the Vataja conditions. It has received its name from word “Gridhra” means vulture because the ailing person feels pain as if bitten by a vulture or the posture and gait of patient resembles like a vulture because of excessive pain felt. It is classified into two forms i.e. Vataja and Vatakaphaja according to predominance of dosha. Ayurveda has advocated Vatajaupakrama especially Abhyanga, Kativasti, Vastikarma, Swedana, Agnikarma etc. as the treatment procedures. There are many drugs that are prescribed for the said condition. They have opposite qualities to that of Vata. Among the preparations, the Vishatinduka Vati is extensively used, the active ingredient of which is Kupilu. Thus, the action of Kupilu should be assessed for the said condition.

Keywords: Gridhrasi, Sciatica, Kupilu, Strychnus Nux Vomica, Vata Vyadhi.

INTRODUCTION

Gridhrasi is a disease of Vataja origin. Due to indulgence in the Vatakarakā nirūpa, there is vitiation of Vata that also particularly Apana Vata which creates trouble at Sfiṣṭakāyata followed by Kati, Prishta, Uru, Janu, Jangha, Pada¹. Sometimes, it is Kapha that is vitiated and thus causes the obstruction in the movement of Vata. Hence, an Avaranajanya pathology leading to the pain and stiffness of the lower back along with other Kapahaj features like Aruchi, Tandra and Gouravr². Here Ama also plays an important role in pathogenesis and the condition of Agni seems to be diminished. The day today routines of modern society are source of degeneration, Vatavriddhi and Agnimandya, Avarana etc. so the disease concept study will be useful for present day.

AIMS & OBJECTIVES:

To study Literary aspects of Gridhrasi and the possible mode of action of drug Kupilu in its management.

DISEASE DESCRIPTION:

There are eighty types of Vatavyadhi, amongst which the Gridhrasi is one important one³. The disease is described in Brihat-trayi, Laghu-trayi.

NIDANA:

Vata gets vitiated by two ways viz. Dhatukshaya and Margavārana⁴. So, the various Vata prakopaka hetus are divided likewise. The particular causative factors of Gridhrasi are not mentioned in the classics. The general causes of vatavyadhi are considered as the causes of Gridhrasi.
The Vata prakopaka hetus found in different samhitas are written as under:

**Aharaj Causes:**
Ruksha, Sheeta, Laghu, Khara, etc. are the inherent properties of Vatadosha. In Gridhrasi, it is manifested by the stiffness produced in the Kandara of the leg as Rukshaguna is Kathinyakara. Rukshaguna affects the Asthigata sneha i.e. Majjadhatu in Gridhrasi. Stambhana is the karma of Sheetaguna. Laghuguna is exactly opposite to Guru guna and does Lekhana karma. Charak has stated that Atiyoga of Katu rasa causes pain in limbs, Prishtha etc. along with Kampa, Toda, Bheda etc. Tikta rasa when used exclusively, by virtue of its Ruksha, Khara, Vishadaguna affects Rasa, Rakta, Mamsa, Meda, Asthi and Majja dhatu and produces Vatavyadhies. Kashaya rasa also has Khara and Vishada guna and produces Stambhana and Vatavyadhies when consumed excessively.

**Viharaj Causes:**
Ativyavaya causes Apanavata prakopa which is the main culprit in Gridhrasi, while Vegavarodha, Ratrijagran and Divaswapan are other factors.

**Manasika Causes:**
In conditions of Shoka, Chinta, Bhaya etc. Vata is vitiated.

**Miscellaneous Factors:**
Excessive emaciation due to other diseases leads to Dhatukshaya which in turn provokes vata. If Ama is produced by Agnimandya and it combines with Vata, the Vata samshrishta ama is capable of producing many Vatavyadhies. Thus, when Apana vata is combined with Ama, Gridhrasi may be produced. Vata gets vitiated by the Avarana of other doshas, dhatus etc. It produces obstruction to the normal gati of vata.

**SAMPRAPTI:**
Because of the samprapti vishesh, the same nidanas produce different vatavyadhies. This is because the presentation of the disease changes according to the sthana where dosha-dushya sammurchhana takes place. This Dhatukshaya results into the aggravation of Vata and this vitiated Vata fills up the empty Srotasas ultimately causing Vatavyadhiti. The second type of samprapti takes place by Santarpana causing Margavarodha. Here Kapha is found as Anubandhi dosha along with vata. De-arranged Jatharagni leads to formation of Ama. Ama produces obstruction to the normal gati of Vata. To overcome the resistance vata attempts to function hyper dynamically. This leads to vataprakopa. Also, when the Amasamshristavayu resides at Kati, Prishtha etc. Gridhrasi may be produced.

Charaka has mentioned that rogas of snayu, sira and kandara be treated like Vataroga Chikitsa. Thus, from the above description involvement of rasa, rakta, mansa, meda and mainly asthi, majja dhatus, kandaras, sira and snayus in the disease Gridhrasi is obvious.

**POORVARUPA:**
Avyaktrupa of the lakshana themselves.

**RUPA:**
Charaka has listed Ruka, Toda, Stambha and Muhuspandana as the cardinal symptoms. To be more precise about the track of pain. Also, Sakhikshepa nigrahana is added to the list of cardinal signs by Acharya Vagbhata. Tandra, Gaurav, Aruchi, Bhaktadwesha, Mukhapraseka etc. are the lakshanas of vata-kaphaj Gridhrari. Vitiated doshas when affect Snayu, Sira and Kandara, Stambha, Sphurana and Supti are produced. This process when takes place in lower limb, Gridhrasi is produced.

**CHIKITSA:**
Charaka mentions siravedha between the Kandara & Gulfa, basti (anuvasana & niruha) and agnikarma as the line of treatment for Gridhrasi. Sushrut, being the master of Shalya-tantra has advised only siravedha at janu after flexion. Siravedha four angula above or below janu is mentioned for Gridhrasi in Ashtanga Hridaya. The common line of treatment of Vatadosha is also applicable here. Vagbhata has stated that Sneha, Sweda, Mruda Samshodhana along with Madhur, Amla, Lavana dravyas. Veštana, Trasana, Madya, sneha sidha with deepan and pachan drugs, mansarasa and Anuvasana basti pacify the vata. Basti stays at Pakwashaya, but due to its virya, acts on the doshas from top to toe and scabs off the doshas from kati.
prishtha, kostha etc. and removes them through anus\textsuperscript{25}. Snehabasti strengthens pada, jangha, uru, kati, prishtha\textsuperscript{26}.

**DRUG DESCRIPTION:**

**VISHMUSHTI (Seed):**

Kupilu (Vishmushti) consists of dried seed of Strychnosnux-vomica Linn. (Fam. Fabaceae), a tree, upto a height of 9 to 15 m found throughout tropical parts of the country upto 360 multitude in the moist deciduous forest. Seed is poisonous and can produce ill effects\textsuperscript{27}.

**PROPERTIES AND ACTION:**

*Rasa:* Katu, Tikta.

*Guna:* Laghu, Ruksha, Ushna

*Virya:* Ushna,

*Vipaka:* Katu,

*Karma:* Grahi, Madakaraka, Vatalam, Kaphanshaka, Vranashodhana, Parama

*Vedanahara, Rujahara, Jantunashana*\textsuperscript{28}.

**SAMPRAPTI VIGHATAN:**

As we know that “samprapti vighatan meva chikitsa”. As per samprapti, it is clear that the pathology is mainly two types i.e. one through pure vata-vitiation and another through avarana or margavarodha of vata by Kaphadosha. Here the Kupilu will act in a certain way. The katu, tiktaras and Katu Vipaka are Kapha shamaka along with Kshna virya which is vatakapha shamaka. Ruksha and laghu guna will check kapha while Ushna guna will check Vata kapha. The nadi-uttajekprabhav will lead to the better movement of Vatadosha across the body. The Ushna Viryacan improves the Keval Vataj condition too. In this way, Kupilu will do the samprapti vighatan. Thus, can be taken as a good drug in said condition principally.

**ACTIVE PRINCIPLES:**

**CONSTITUENTS:** Alkaloids, Indole Alkaloids, Strychnine & Brucine, Monoterpenoid Glycoside (Loganin), α, β -Colubrine, Vomicine\textsuperscript{28}.

**PHARMACOLOGICAL & BIOLOGICAL ACTIVITIES:**

**Antinociceptive:**

Nux vomica seeds extract has been used in various analgesic preparations of traditional Chinese medicine. Using tail-pressure, hotplate and acetic acid-induced writhing tests models, the intraperitoneal administration of crude alkaloid fractions (CAF) and processed alkaloidal fractions (PAF) of nux vomica seeds extract exhibited antinociception potential in mice; however, PAF showed stronger antinociception than CAF\textsuperscript{29}. Using the same models, the transdermal administration of modified total alkaloid fractions (MTAF) containing low strychnine and high brucine was significantly improved the analgesic activity in compared to the total alkaloidal fractions (TAF). Strychnine possessed little antinociceptive property; however, brucine and brucine N-oxide showed strong antinociceptive potential. It has been also demonstrated that the transdermal absorption of brucine of MTAF was significantly higher than brucine alone, which might account somewhat for the higher antinociceptive potential of MTAF. Therefore, it has been postulated that antinociceptive potential of nux vomica seed extract might be due to a synergistic effect of low-level strychnine with brucine and brucine N-oxide which might attributed by the inhibition of cyclooxygenase (COX) and monoamine oxidase activities\textsuperscript{30,31}.

**Anti-inflammatory:**

A number of different solvent extracts from different parts of S. nux vomica have shown anti-inflammatory activity in different test models. Mitra et al. reported the significant anti-inflammatory activity of raw and purified seed extract of this plant against formaldehyde induced hind paw edema in rats\textsuperscript{32}. In a more recent study, the MTAF of nux vomica seeds extract with a low strychnine content showed 1.8 times higher anti-inflammatory potential than that of total alkaloid fraction (TAF) at the dosage of 1 mg/kg body weight against xylene-induced ear edema in rats. Alkaloids of nux vomica seeds such strychnine, brucine and brucine N-oxide were reported as primary active compounds exhibited significant anti-inflammatory activ-
ity. Brucine and brucine N-oxide showed higher anti-inflammatory potential than that of strychnine; since brucine N-oxide was found to more active than that of brucine\(^33\).

**Neuropharmacological:**
Nux-vomica crude extract rarely used in clinical practice, as such due to the high content of strychnine, but still it widely used in the alternative medicine system after processing. Studies showed that the sub-convulsive dose of processed seed extract (125 mg/kg) significantly inhibited the pentylenetetrazole-induced convulsions and potentiated barbiturate induced hypnosis in animals and the facts are indicative of CNS depressant action of processed seed extract of nux vomica. It was also seen that processed seed extract antagonized the morphine induced catalepsy in rats which may justify the clinical use of nux vomica in muscular rigidity\(^34\). Further, the brucine was found to allosteric enhancers of acetylcholine binding to the muscarinic 1 receptor by 2-fold\(^35\).

**PRECAUTIONS:**
It should be taken in indicated dosage after being processed with proper *shodhana* procedures otherwise being a poisonous substance, it can prove fatal\(^36\).

**CONCLUSION**
In *Ayurveda*, the drug *Kupilu* has been used in practice in *Gridhrasi* so the drug was studied for its pharmacological properties and actions. There are several evident studies conducted that prove its efficacy. The sciatica is a painful condition with much prevalence in society and is treatable in *Ayurveda* system. The treatment of *Gridhrasi* in other systems of medicine is not very effective so an attempt was made to do the pharmacological study on effect of *Kupilu* on *Gridhrasi* which showed a good result principally. Further, clinical studies are required for complete evaluation.

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