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ABSTRACT

Today's changing trend has given chance to increase prevalence of chronic diseases related to diet and lifestyle. Among them, *Peptic Ulcer Disease (PUD)* is a gastrointestinal tract (GIT) disorder which is compared to *Amlapitta*. The causative factors like stressful daily routine, irregular eating habits, eating junk-oily-spicy foods etc., resulting in excessive increase of 'Pitta Dosha' causes *Amlapitta*. Symptoms like heart & chest burn, nausea, indigestion, sour or bitter belching, aversion towards food, gastric is seen in later stage. Among many *Rasoushadis kamadudha rasa* is widely used in *Amlapitta*. The ingredients of *Kamadugha Rasa* like *Bhasmas* of the *Sudha Vargas* which are known for their importance in the management of *Amlapitta*, *Pittaja Vikara*, mainly acts as *Deepana*, *Pachana* and *Vrana Ropana*. In The present article an attempt is made to understand the possible mode of action of *Kamadugha Rasa* as a gastro-protective and for its anti-ulcer activity.

Keywords: *Amlapitta*, Peptic Ulcer Disease, *Kamadudha Rasa* action.

INTRODUCTION: *Rasashastra* includes various drugs of metals and mineral origin along with details of their varieties, characteristics, processing techniques, properties, therapeutic values, precise dose, probable adverse effects, their management and various alchemical procedures in a comprehensive way. Emerging spectrum of Lifestyle diseases (LDs) is a big health challenge. The pattern of leading unhealthy lifestyle with a fast pace, changes in food habits and behavioral patterns leads them towards various psycho-physiological diseases. Digestive abnormalities are one among them. *Samhita* mentions that in a condition with a disturbed psyche, even wholesome food taken in proper quantity does not get properly digested¹. *Acharya Kashyapa* and *Madhavakara* have mentioned psychological problems and bad food habits as the causative factors of *Amlapitta*. There are many conditions like hyperacidity, gastritis, dyspepsia, anorexia,

peptic ulcers under GI diseases. All these can be correlated to *Amlapitta*². In this article Peptic Ulcer Disease has been taken for the correlation of *Amlapitta*. There is no involvement of age factor; it can occur at any age infancy, childhood but most common in middle aged adults (Beer and Berkow, 2006). 'Hurry', 'Worry', and 'Curry' are the three main reasons for this disease. As Ayurveda says *Samprapti Vighatanameva Chikitsa*, *Kamadudha Rasa* acts exactly in the same way. It acts as an antacid and suppresses the *Vidagdha Pitta* and on the other hand it acts as *Deepana Pachana* and treats the *Agnimandya* condition. Beyond this it acts on the ulcer condition also as *Vrana Ropana*. Pharmacodynamic actions of *Kamadudha Rasa* are more than the actions of antacids like H₂ receptor blockers (ranitidine, famotidine), and proton pump inhibitors (omeprazole, pantoprazole). It not only subside the secretion of acids, also corrects the entire

digestive system by improving the digestive fire, digestive enzymes and also heals the ulcers³. So the drug of choice is *Kamadudha Rasa* in *Amlapitta* (PUD).

Amlapitta (PUD): According to *Ayurvedic Classical Texts*, the *Vidagdha Ahara* becomes *Amla* and remains still in the stomach which provokes the *Pitta dosha*. Provocated *Pitta* causes reduction in the digestive power and also causes fermentation of the food. This fermented

Samanya Samprapti of Amlapitta

Pittaprakopaka Nidana

Nidana



Amlaguna Vriddhi in Pitta



Vidagdha Pitta



Vata/Kapha/Vatakapha

Prakopaka

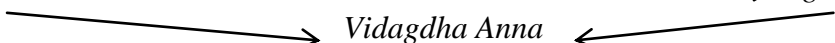
With *Pitta Prakopaka Nidana*



Vata or Kapha or Vatakapha



Agnimandya



Vidagdha Anna



Shukta Paka (Sourness)



Amlapitta

Ayurveda continues to contribute effectively to human health capable to respond to the expressed health needs of the community and emerging times when the prevalence of lifestyle diseases is increasingly on the rise. *Ayurveda* offers more personalized care and customized treatment options. Demand of herbo-mineral drugs is increasing in day to day life due to their excellent efficacy, fewer side effects and faster action. *Rasoushadhis* are the unique dosage forms having benefit of long shelf life and better therapeutic efficacy at lower dose. In present era *Rasoushadhis* have given society a complete holistic health care. So the drug of choice is *Kamadudha Rasa* in *Amlapitta* (PUD) condition.

Kamadudha Rasa Ingredients and Indications according to classics:⁷

food in turn causes provocation of *Pitta* and vitiation of stomach, ultimately causing "*Amlapitta*"⁴. *Acharya Charaka* said that the *Aama* or undigested food molecules which are generated from *Ajirna* are absorbed and deposited in different organs of the body and thus produces the metabolic disease like *Amlapitta*⁵.

Amlapitta Samprapti according to *Kashyapa Samhita*⁶

Kamadudha Rasa contains *Bhasmas* of *Shudha Varga Dravyas* like *Mukta* (Calcined pearl), *Shukti* (Calcined oyster shell), *Shankha* (Calcined conch shell), *Pravala* (Calcined coral) and *Varatika* (Cowries shell) along with *Shuddha Gairika* (Purified red ochre) and *Guduchi Satva* (Cold water extract of *Tinospora cordifolia*). It is not only indicated for *Amlapitta* but also in *Pittaja Vikaras*, *Jeerna Jwara*, *Unmada* (Psychosis), *Apasmara* (Epilepsy), *Pradara* (Leucorrhoea), *Mutra Daha* (Burning micturation), *Raktarsha* (Bleeding piles), *Vrana* (Ulcers produced due to *Amlapitta*), *Bhrama* (Vertigo), *Daha* (Burning sensation), *Murcha* (Loss of consciousness), *Rakta Pitta* (Epistaxis) and *Trishna* (Thirst). These all indications depend on the variation of the *Kamadudha*

Rasa mentioned in different classical texts and are dealt in detail here.

Table 1: Kamadugha Rasa Preparation & Indication in classical Ayurvedic texts

	<i>Jwaradhikara</i> (Hariprapannaji, 1999)	<i>Amlapittadhikara</i> (Hariprapannaji, 1999)	<i>Amlapittadhikara</i> (Hariprapannaji, 1999)	<i>Ratna Pradhana Yoga</i> (Joshi and Rao, 2003)
Ingredients	<i>Swarna Gairika, Ghrita, Amalaki Swarasa</i> (juice of <i>Emblica officinalis</i>)	<i>Guduchi Sattva, Swarna Gairika, Abhraka Bhasma Karsha</i>	<i>Mukta Bhasma, Pravala Bhasma, Shukti Bhasma, Kapardika Bhasma, Shankha Bhasma, Shuddha Gairika, Guduchi Sattva</i> all in equal quantity	<i>Swarna Gairika, Guduchi Sattva, Sharkara, Amalaki Swarasa</i>
Preparation	<i>Bharjana</i> (frying) of <i>Swarna Gairika</i> is done with <i>Ghrita</i> , powdered and seven <i>Bhavana</i> (trituration) given with <i>Amalaki Swarasa</i> .	All the ingredients are finely powdered and mixed well.	All the ingredients are taken in equal quantity and triturated homogeneously.	<i>Shodhita Swarna Gairika</i> triturated with <i>Amalaki Swarasa</i> continuously for 21 days, dried and powdered. Mix <i>Guduchi Sattva</i> equal to it and also mix Sugar equal to both and grind well.
Indication	<i>Pitta Roga, Prameha</i> (diabeties), <i>Pradara, Pandu Roga</i> (anemia), <i>Kamala</i> (jaundice), <i>Daha, Trishna, Bhrama, Jirna Jwara</i>	<i>Prameha, Pradara</i>	<i>Jirna Jwara, Bhrama, Unmada, Pitta Roga, Amlapitta</i> and <i>Somaroga</i> .	<i>Rakta Pitta, Trishna, Daha, Bhrama, Murcha</i>

Chemical Composition:⁸

Kamadudha Rasa is likely to contain:

1. Calcium Carbonate
2. Conchiolin
3. Starch

4. Iron oxide

The Pharmacodynamics' action of *Kamadudha Rasa* particularly in treating *Amlapitta* (PUD) is explained further so as to serve as an important tool for treating

Peptic ulcers and serving for the betterment of digestive system.

Mode of action of Kamadudha Rasa:⁹

In the present review an attempt is made to understand the Mode of action of Kamadudha Rasa as Gastro-Protective and Anti-Ulcerative.

Kamadudha Rasa's ingredients & its individual properties & actions

- *Pravala* and *Mukta* which have *Dipana* (appetizer) and *Pachana* (digestive) properties (Kulkarni, 2006) & also maintains the normalcy of *Agni* (digestive fire) and thus help in curing and preventing the production of ulcers (Ghosh and Baghel, 2011). The *Kshariya* (alkaline) nature of these drugs would reduce the *Amliyata* (acidic nature) and help in *Vrana Ropana* (promotes wound healing). Due to their *Sita Virya property* (the drug having cold potency or cooling effect usually resembles to endothermic) *Pitta Shamana* (pacify the biological fire) is done.
- *Shankha Bhasma* is also having *Sita Virya*, alkaline property & it is *Grahi* (absorption enhancing), it is indicated in gastrointestinal disorders like *Amlapitta*, *Parinama Shula*, *Grahani* (Irritable bowel syndrome) and *Agnimandhya* (Shastri, 1989) which is clinically proved (Pandey, 2000).
- *Gairika* is having *Madhura* (Sweet), *Kashaya* (Astringent), *Snigdha* (smooth), *Hima* (cold) properties which act as *Rakta Pittahara* (effective in bleeding diathesis) and *Vrana Ropaka*. These properties are very necessary in the healing of ulcer.
- *Guduchi Satva* is known for its *Rasayana* property (Upadhyay et al., 2010). It is having *Tikta* (Bitter), *Kashaya Rasa* with *Madhura Vipaka* (post digestive

effect which is sweet in nature), *Snigdha Guna* and is *Tridosha Shamaka* (pacify three Bio energy Principles, *Vata*, *Pitta*, and *Kapha*), *Dipaniya*. These all would support in the antiulcer activity along with Rejuvenation.

DISCUSSION: *Pitta* is having *Tiksna* (sharpness), *Usna* (heat), *Sara* (mobility), *Laghu* (lightness), *Snigdha* properties by which it brings biochemical changes at the cellular and tissue levels. *Pitta* maintains digestion, thirst, appetite, energy production, body temperature, color, and complexion. *Pitta* is *Drava* (liquid) in consistency, inspite of which, it performs actions similar to *Agni*, in the course of process of digestion, largely due to its actual *Teja* (heat) component (discarding its liquidity-*Drava*). This fact is inferred from the way in which *Pachana Pitta* (digestive component of biological fire) performs *Pachana* (digestive) *Karma* (action). The capacity of digestion also depends on the qualitative increase of *Usna Guna* of *Pitta*. Conceptually it can be concluded that substances having the properties like *Ruksha*, *Kashaya*, *Laghu* has effect to decrease the *Drava Guna* of *Pitta* and maintaining the proper function of *Agni*. Similarly substances having *Madhura*, *Sheeta* properties, decreased the *Usna* property of *Pitta* to maintain the proper function of *Agni*.

Modern perspectives of Mode of Action:¹⁰ Due to oxalates and phytates present in cereals and green leafy vegetables the calcium in them are not utilized by the body properly. In *Bhasmas* the calcium is in the form of oxide and it is easily absorbable. Calcium components due to their alkaline properties they suppress the acidic reactions in the gut, act as Antacids.

The absorbability of calcium compound *Bhasmas* which are in oxide form may be

explained as below,

Figure 1: Probable absorbability of calcium compound *Bhasmas*

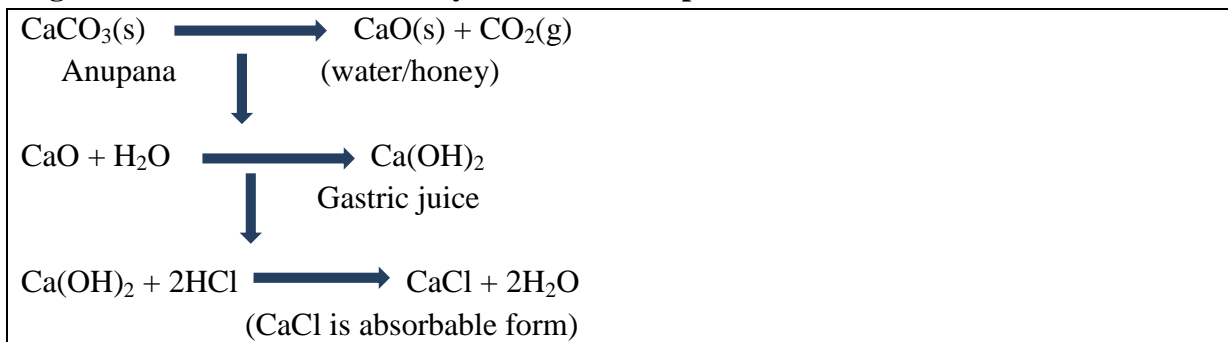
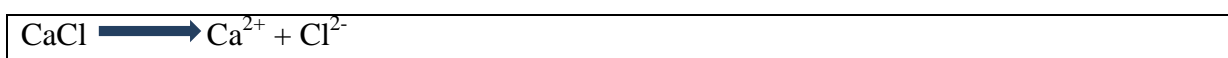


Figure 2: Probable mode of action in *Amlapitta*



The probable mode of action in *Amlapitta* as antacid by all *Sudha Varga Dravyas* is: Ca^{2+} is most absorbable form in body and Cl^{2-} nullifies the acidity along with properties of these drugs like *Sheeta Veerya* and has *Pittahara* action so its action in *Amlapitta* is effective. Low pH condition i.e., acidic state is more favorable for absorption of calcium. *Kamadudha Rasa* also contains many elements like iron, oxygen, sodium, zinc, aluminium, silicon potassium and others which are essential minerals for the maintenance of healthy body. The presence of zinc, aluminium and magnesium also helps in the ulcer healing process¹¹.

CONCLUSION: *Amlapitta* (PUD) is a *Pitta* predominant disease and by the above concept it is proved that *Pitta* is treated by the *Sheeta Virya*, *Madhura Rasa*, *Kshariya* properties. And also *Kamadudha Rasa* contains other elements which help in *Vrana Ropana* action & also this formulation helps in increasing immunity. So, overall effect of *Kamadudha Rasa* can be said that it's not only cures PUD but also helps in improving the total health condition.

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