



DECODING SOOTASHEKHARA RASA: MECHANISM OF ACTION IN ACID PEPTIC DISORDERS

¹Dr.Sindhuja K N , ²Dr.Ashok Kumar B.N , ³Dr.Ravindra Angadi , ⁴ Dr.Radhika Ranjan Geethesh P , ⁵Dr.Sushmitha V.S , ⁶Dr.Sushma Shenoy

1. Corresponding Author, PG Scholar, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka
2. Professor, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka
3. Professor and HOD, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka
4. Professor, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka
5. Assistant Professor, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka
6. Assistant Professor, Department Of PG And Ph.D. Studies in Rasashastra And Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara College Of Ayurveda, Hospital And Research Centre, Kuthpady, Udupi, Karnataka

ABSTRACT

The term “Acid Peptic Disease,” known as “Acid Peptic Disorder,” consists of various disorders that affect the gastrointestinal tract, including Gastroesophageal Reflux Disease (GERD), Gastritis, Gastric Ulcer, Duodenal Ulcer and Oesophageal Ulcer. These conditions arise when the protective mucosal lining of the stomach weakens or when there is an excess secretion of acid or pepsin from either the gastric or duodenal region¹. Acid Peptic Disease is a prevalent condition with a lifetime risk estimated between 5% - 10% globally². Sootashekha Rasa is an effective Ayurvedic Herbo-Mineral formulation for managing Acid Peptic Disease. In this article, an attempt has been made to unravel the action on Sootashekha Rasa in Acid Peptic Disease.

KEYWORDS: Ayurveda, Sootashekha Rasa, Acid Peptic Disease.

INTRODUCTION

Sootashekha Rasa is one of the swarna kalpa containing herbal, mineral as well as visha dravyas indicated in Amlapitta. Acid peptic disorders include a number of gastro-intestinal conditions where excess stomach acid damages the digestive tract lining. Acid peptic disorders include Gastroesophageal Reflux Disease (GERD), Gastritis, Gastric Ulcer, Duodenal Ulcer and Oesophageal Ulcer. Under normal conditions, a physiologic balance exists between gastric acid secretion and gastroduodenal mucosal defense. Mucosal injury and peptic ulcer occur when the balance between the gastric acid secretion and gastroduodenal mucosal defense is disrupted. Acid Peptic Disease is characterized by Burning or Gnawing pain in the upper abdomen, Heart burn, Nausea, Vomiting, Bloating, Belching, Loss of appetite and Weight loss. Sootashekha Rasa is an important formulation which is widely used in day to day Ayurveda practice in the management of Amlapitta. But it is a need to explain the mechanism of action of this formulation on scientific basis.

MATERIALS AND METHODS

Classical Ayurvedic Texts, Journals and Internet sources were referred for making this article.

The reference of Sootashekha Rasa is available in Yogaratnakara Amlapitta Rogadhikara³. In AFI the same reference is mentioned⁴.

INGREDIENTS OF SOOTASHEKHARA RASA:

INGREDIENTS	RATIO
1. Shuddha Parada	1 part
2. Swarna Bhasma	1 part
3. Shuddha Tankana	1 part
4. Shuddha Vatsanabha	1 part
5. Trikatu	Each 1 part
6. Shuddha Dhatura Bheeja	1 part
7. Shuddha Gandhaka	1 part
8. Tamra Bhasma	1 part
9. Chaturjata	Each 1 part
10. Shankha Bhasma	1 part
11. Bilwa Majja	1 part
12. Kachura	1 part
14. Bringaraja Swarasa	Q.S (for bhavana)

METHOD OF PREPARATION:

1. Shuddha Parada and Shuddha Gandhaka are taken in khalwa yantra and triturated to form appropriate Kajjali.
2. Fine powders of all the herbal and mineral drugs are added to the Kajjali and triturated to obtain a homogenous mixture.
3. Later the whole mixture is subjected to bhavana with Bringaraja swarasa for one day.
4. Later vati of 1 gunja Pramana is rolled, dried in shade and stored in air tight container.

DOSE: 125-250 mg

ANUPANA: Honey and Ghee

INDICATION: Amlapitta, Chardi, Shula, Gulma, Kasa, Grahani, Atisara, Shwasa, Mandagni, Hikka and Udavarta.

PROPABLE MODE OF ACTION:**1. KAJJALI:**

1. It is having Rasayana, Yogavahi and Sarvaamayahara property⁵.
2. And therefore enhances the potency and bioavailability of the drugs it is combined with, without altering their qualities.

2. DATTURA:

- It is an important ingredient of Sootashekha Rasa.
- Primary active constituents: Atropine, Scopolamine and Hyoscyamine.
- The three primary alkaloids are antimuscarinic anticholinergics, which means they competitively antagonize (block) the muscarinic acetylcholine receptors⁶.
- As this is a potent anticholinergic drug, it inhibits the action of Acetylcholine and therefore inhibits acid(HCl) production in gastric mucosa and relieves hyperacidity.

3.SHUDDHA VATSANABHA:

3. It is having Agni deepana, Amapachana, Rasayana and Yogavahi property.
4. It is having Analgesic, Anti-inflammatory and Anti-oxidant property.
5. Hence it has potential uses in the pain relief, reduce inflammation in the stomach lining and also it helps protect the digestive system from the damage caused by free radicals.

4.SHANKHA BHASMA:

- The other component of Sootashekha Rasa is Shankha Bhasma.
- This is a Calcium carbonate compound.
- This directly reacts with gastric HCl and neutralize them, so this acts as potent antacid.

**4.SHUDDHA TANKANA:**

- Tankana (Borax) reacts with HCl and neutralizes HCl.

**5.SWARNA BHASMA:**

- Studies indicate that Swarna Bhasma, particularly its nano-sized gold particles, possesses anti-inflammatory and immunomodulatory effects⁷.
- Hence it can help reduce inflammation in the stomach lining and modulate the immune response, which is crucial in ulcer healing.

6.TAMRA BHASMA:

- It is having Deepana, Rasayana, Krimihara, Lekhana, Vranahara properties.
- Studies in rats have demonstrated that Tamra Bhasma can protect against various types of gastric ulcers and promote healing⁸.
- Research indicates that Tamra Bhasma can decrease the output of gastric acid and pepsin, while simultaneously increasing the secretion of mucus in the stomach⁸.
- This mucus layer acts as a protective barrier against the corrosive effects of stomach acid.

7.TRIKATU:

- It has Agni deepana, Amapachana, Kaphahara and Medohara properties.
- Trikatu contains bioactive compounds like gingerols and piperine, which exhibit anti-inflammatory properties, potentially helping to reduce inflammation in the GI tract.
- Trikatu also possesses antioxidant activity, which can help protect the digestive system from the damage caused by free radicals.

8.CHATURJATA:

- It has Agni deepana, Amapachana and Kaphahara properties.
- Chaturjata improves appetite and digestion and helps in relieving the symptoms like indigestion, nausea, vomiting, bloating and heaviness.

9.BILWA MAJJA:

- It has Katu, Tikta, Kashaya Rasa, Ushna Virya, Deepana and Sangrahi properties.
- Research studies indicates that Bilwamajja has anti-diarrheal and gastroprotective properties⁹.
- Studies have shown that Bilwa possesses antimicrobial properties, which could be helpful in combating bacterial infections in the GI tract⁹.

10.KACHURA:

- It has Katu, Tikta Rasa, Ushna Virya, Deepana, Ruchya and Krimihara properties.
- Studies on Kachura have proven to be having Anti-inflammatory, Anti-microbial, Anti-oxidant and Anti-ulcer activity.
- Hence it helps to reduce inflammation in the GI tract, inhibits the growth of harmful bacteria in the gut, protects the digestive system from the damage caused by free radicals and helps in healing of ulcers.

11.BRINGARAJA:

- It has Katu, Tikta Rasa, Ushna Virya and Krimihara properties.
- It has hepatoprotective, antioxidant, anti-inflammatory, and antimicrobial properties¹⁰.
- Hence it helps to reduce inflammation in the GI tract, inhibits the growth of harmful bacteria in the gut and protects the digestive system from the damage caused by free radicals.

DISCUSSION:

Sootashekha Rasa is a classical Ayurvedic Herbo-Mineral formulation extensively used in the management of Acid Peptic Disorders (Amlapitta) owing to its Deepana, Pachana and Pittashamana properties. By enhancing digestive fire and correcting agni, it prevents the formation of ama and regulates gastric secretions, thereby reducing Hyperacidity, Nausea, Vomiting, Bloating and Burning sensation. Kajjali having Yogavahi property enhances bioavailability of the drugs it is combined with, without altering their qualities. Dattura being a potent anticholinergic drug, it inhibits the action of Acetylcholine and therefore inhibits acid(HCl) production in gastric mucosa and relieves hyperacidity. Shuddha Vatsanabha is having Analgesic, Anti-inflammatory and Anti-oxidant property. Shankha Bhasma and Shuddha Tankana directly reacts with gastric HCl and neutralize them, so this acts as potent antacid. Swarna Bhasma possesses anti-inflammatory and immunomodulatory effects. Tamra Bhama is having Deepana, Rasayana, Krimihara, Lekhana, Vranahara properties. Trikatu and Chaturjata has Agni deepana, Amapachana, Kaphahara and Medohara properties. Bilwamajja has gastroprotective and Anti-microbial property. Kachura has Anti-inflammatory, Anti-microbial, Anti-oxidant and Anti-ulcer activity and Bringaraja has hepatoprotective, antioxidant, anti-inflammatory, and antimicrobial properties.

CONCLUSION:

Sootashekha Rasa, with its balanced combination of Herbal, Mineral and the Visha dravyas offers a comprehensive approach to the management of Acid Peptic Disorders by correcting digestive imbalances, pacifying aggravated pitta and enhancing mucosal protection. Sootashekha Rasa has gastroprotective activity and it directly act as an antacid. It addresses both the symptoms and underlying imbalances and hence prevents the recurrence of the disease. When administered with suitable Anupana such as Madhu, Ghrita or Buttermilk, it not only alleviates symptoms but also supports mucosal healing. By following proper Pathya and Apathya these two formulations will be a promising medicine in the management of Acid Peptic Disorders.

REFERENCES:

1. Mohan H, Textbook of pathology, 6th ed: New Delhi: Jaypee Brothers Medical Publishers; 2010. p 550.
2. Malik TF, Gnanapandithan K, Singh K. Peptic Ulcer Disease. [Updated 2023 Jun 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK534792/>
3. Lakshmipathy Shastry V, Yogaratnakara (with Vidyotini Hindi commentary), Edited by Brahmashankar Shastri: Varanasi: Chaukhamba Prakashan; Uttaradhra; p 244.
4. The Ayurvedic Pharmacopoeia Of India, Part I. 2nd ed. New Delhi: Government Of India, Ministry Of Health and Family Welfare, Deaprtment Of Indian Systems Of Medicine and Homoeopathy; 2003. P 735-736.

5. Angadi R, Transcendence English commentary on Rasatarangini of Shri Sadananda Sharma, Murcchana-vijnaniya: Varanasi: Chaukhamba Surbharati Prakashan, 2015; 6:82.

6. Ajay Kumar and Tina Singhal. Scientific explanation of mode of action of sutshekhar ras in amlapitta with special reference to acid peptic disorders: A review. *Int. J. Res. Ayurveda Pharm.* 2018;9(5):47-49 <http://dx.doi.org/10.7897/2277-4343.095154>

7. Sanjay Motilal Tamoli, Kuldip Raj Kohli, Aakruti Arun Kaikini, Suraj Abhimanyu Muke, Afroj Abdulgani Shaikh, Sadhana Sathaye, Vasant Kusmakar Ras, an ayurvedic herbo-mineral formulation prevents the development of diabetic retinopathy in rats, *Journal of Ayurveda and Integrative Medicine*, Volume 11, Issue 3, 2020, Pages 270-276, ISSN 0975-9476, <https://doi.org/10.1016/j.jaim.2020.02.002>. (<https://www.sciencedirect.com/science/article/pii/S0975947618306880>)

8. A.K. Sanyal, B.L. Pandey, R.K. Goel, The effect of a traditional preparation of copper, tamrabhasma, on experimental ulcers and gastric secretion, *Journal of Ethnopharmacology*, Volume 5, Issue 1, 1982, Pages 79-89, ISSN 0378-8741, [https://doi.org/10.1016/0378-8741\(82\)90023-X](https://doi.org/10.1016/0378-8741(82)90023-X). (<https://www.sciencedirect.com/science/article/pii/037887418290023X>)9.

9. Sarkar, Tanmay & Salauddin, Molla & Chakraborty, Runu. (2020). In-depth pharmacological and nutritional properties of bael (Aegle marmelos): A critical review. *Journal of Agriculture and Food Research*. 2. 10.1016/j.jafr.2020.100081.

10. Das, Smruti Ranjan & Mishra, Sweta & Kumar, Sanjeet. (2024). Bhringaraj (Eclipta prostrata L.): a medicinal herb of India. 10.5281/zenodo.11152968.

