



Review Article

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SCIENTIFIC EXPLANATION OF MODE OF ACTION OF SUTSHEKHAR RAS IN AMLAPITTA WITH SPECIAL REFERENCE TO ACID PEPTIC DISORDERS: A REVIEW

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ABSTRACT

Amlapitta or hyperacidity is a very common disease in present era and not only present but also since past era. It is very troublesome disease and can give rise to many serious problems if not treated in time. Signs and symptoms of Amlapitta are very similar to gastritis or hyperacidity. The main cause of hyperacidity is the aggravation of Pitta Dosha in the body. Pitta is an Ayurvedic humor that symbolizes heat or fire. There are many causes for the aggravation of Pitta, main among them are: Eating foods that do not suit the constitution or foods that should not be taken together (milk and fish, milk and salt), excessively sour or spicy foods and liquids. Hyperacidity is known as Amlapitta in Ayurveda. Hyperacidity therefore is a condition characterized by an increase of sourness and heat in the body. The aggravated Pitta impairs the digestive fire, leading to improper digestion of food and production of Ama. Sutshekhar Ras is an important medicine used in Amlapitta. In this review article, we are trying to explain the mechanism of action of this drug on scientific basis.

Keywords: Amlapitta, Hyperacidity, Acid peptic disorder, Sutshekhar Ras.

INTRODUCTION

Amlapitta is a disease of gastro-intestinal tract, especially mentioned in Kashyap Samhita¹, Madhava Nidana², Bhava Prakasha, Kashyap Samhita³ and Chakradatta. This disease is not separately described in Charaka Samhita, Sushruta Samhita and Ashtang Hriday or Ashtang Samgraha. Amlapitta is mentioned in these Brihatrayi as a symptoms or complication of many disorders.

Excess production of acids in stomach is termed as the hyperacidity. There are varieties of reasons which cause excess acid production. Heartburn and hyperacidity⁴ are primarily lifestyle or age related. While there are various health conditions and circumstances that could cause hyperacidity and heartburn, for the most part, the condition results from unhealthy lifestyle choices. Sutshekhar Ras is an important medicine used in Amlapitta and it is need of today to explain the mechanism of action of this drug on scientific basis.

REVIEW OF DISEASE

Etymologically the word Amlapitta comprises of two components i.e. Amla & pitta. Chakrapani⁵ in his commentary on Charak Samhita defines “Amlapittam Cheti amlagunoundriktam pittam” means the augmented or increased amla guna of pitta is known as Amlapitta. Whereas Shrikanthadutta in his Madhukosha vyakhya⁶ of Madhav Nidan defines “Vidhadhyamla gunaoundrikta pittam amlapittam” i.e. the pitta becomes vidagdha because of excessive increase of amla guna of pitta & “Amlam vidagdham cha tat pittam amlapittam” the pitta which attains amla guna & vidagdha is called as Amlapitta. Indulgence of foods which are incompatible combinations, spoiled, very sour, causes increase of pitta and produces Amlapitta.

The Samprapti i.e. pathogenesis of Amlapitta involves three important factors⁷ i.e.

1. Agnimandya,
2. Ama
3. Annavaha Srotodushti.

Along with these factors, the vitiation of pitta leading to quantitative & qualitative increase of its Ama & Drava Guna gives rise to Amlapitta. The main sign and symptoms as mentioned in Madhav Nidan are described under two types. [Table 1]

1. Adhoga Amlapitta

Thirst, burning sensation, fainting, giddiness, delusion, rashes on skin, poor digestion are the main symptoms of this type of Amlapitta.

2. Urdhwaga Amlapitta

Vomiting of green, yellow, black, bright red coloured sour material, resembling mutton wash, belching, burning sensation in throat, chest and upper abdomen, headache, loss of appetite, fever, appearance of rashes are the main symptoms of this type of Amlapitta.

Table 1: Classification of Amlapitta

Type	Direction	Symptoms
Adhoga Amlapitta	Downward	Thirst, Burning sensation, fainting, rashes on skin etc
Urdhwaga Amlapitta	Upward	Vomiting, Headache, Burning sensation, Loss of appetite

The biggest contributing factor towards heartburn and hyperacidity is bad eating habits. Eating large meals and foods that are high in unhealthy fats, starch, sugars, spices and oil can all lead to heartburn. Eating heavy meals before sleeping also causes hyperacidity, as you are not giving your body adequate

time to digest the food properly. When you sleep soon after eating, the reclined position also makes it easier for acid reflux to occur. Keeping long gaps between meals and skipping meals can also cause acids to build up in the stomach and lead to heartburn and acidity. Bad eating habits put extra stress on the digestive system making it work overtime to try and function normally.

Acid peptic disorders are the result of distinctive, but overlapping pathogenic mechanisms leading to either excessive acid secretion or diminished mucosal defence. They are common entities present in daily clinical practice that, owing to their chronicity, represent a significant cost to healthcare.

PHYSIOLOGY OF ACID SECRETION⁸

The stomach consists of two primary functional zones i.e., the oxyntic gland area, representing approximately 80% of the organ, and the pyloric gland area representing the remaining 20%. Parietal cells secrete hydrochloric acid and intrinsic factor which are predominantly present in the oxyntic glands. Chief cells secrete the digestive enzyme precursor pepsinogen⁹. The histamine, gastrin and acetylcholine released from postganglionic enteric neurons¹⁰ are the principal stimulants for acid secretion from gastric mucosa.

Basal acid secretion is modulated by acetylcholine from parasympathetic vagal efferent. It directly stimulates acid secretion by binding to muscarinic receptors on parietal cells.

Indirectly, acetylcholine also stimulates acid secretion through activation of M2 and M4 receptors on D cells¹¹.

Antacids work instantaneously and give rapid relief from hyperacidity. The primary effect of antacids is partial neutralization of gastric hydrochloric acid and inhibition of the proteolytic enzyme pepsin¹². These all antacids are administered orally, and their potency is measured by the amount of acid neutralized by a given dose of the antacid.

Most Commonly we use sodium bicarbonate, calcium carbonate, magnesium hydroxide and aluminium hydroxide as antacids. For example, calcium carbonate is sparingly soluble and it reacts with HCl and generates soluble calcium chloride, which is converted back to calcium carbonate in the alkaline conditions of the small intestine. Other used antacids are the insoluble aluminium hydroxide and magnesium hydroxide. Aluminium and calcium-containing products generally cause constipation therefore these agents are often combined with magnesium hydroxide, which can cause diarrhoea and loose stools when administered alone.

SUTSHEKHAR RAS

Sutshekhar Ras is an important medicine used in Ayurveda, which acts on Pitta Dosha and reduces symptoms like heartburn, nausea, vomiting, abdominal pain, epigastric tenderness, hiccup, fever, breathing troubles, headache etc. The main ingredients are given in Table 2.

Table 2: Ingredients of Sutshekhar Ras (Siddha Yoga Samgraha)

S.N.	Contents	Parts	S.N.	Contents	Parts
1	Parad	1	2	Gandhak	1
3	Raupya Bhasm	1	4	Shunthi	1
5	Marich	1	6	Pippali	1
7	Dhatura	1	8	Tankan	1
9	Tamra Bhasm	1	10	Dalchini	1
11	Tejpatra	1	12	Ela	1
13	Nagkeshar	1	14	Shankh	1
15	Bilwa	1	16	Karchur	1
17	Bhringraj Kwath	Bhawana Dravya			

MODE OF ACTION OF DIFFERENT INGREDIENTS

DHATURA

Datura stramonium is a main ingredient of Sutshekhar Ras. It is a widespread annual plant, containing atropine, hyoscyamine, and scopolamine, which can produce poisoning with a severe anticholinergic syndrome¹³. Atropine, scopolamine, and hyoscyamine/daturine (the l-enantiomer of atropine) are the primary active constituents in all dhatura species. The three primary alkaloids in dhatura are antimuscarinic anticholinergics, which means they competitively antagonize (block) the muscarinic acetylcholine receptors.

As this is a potent anticholinergic drug, it inhibits the action of Acetylcholine. Previously we said that Acetylcholine from parasympathetic vagal efferent modulates basal acid secretion and stimulate acid secretion indirectly by inhibiting the release of somatostatin, so ultimately by blocking the acetylcholine, Dhatura inhibits acid(HCl) production in gastric mucosa and relieves hyperacidity.

SHANKH BHASM

The other component of Sutshekhar Ras is Shankh Bhasm. This is a Calcium carbonate compound. This directly reacts with gastric HCl and neutralise them, so this acts as potent antacid.

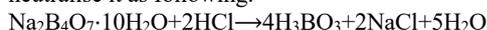
$$\text{CaCO}_3 + \text{HCl} = \text{H}_2\text{O} + \text{CO}_2 + \text{CaCl}_2$$

LAUHA BHASM

Another compound Lauha Bhasm also directly neutralises HCl as $\text{Fe} + 2\text{HCl} = \text{FeCl}_2 + \text{H}_2$ HCl is strong acid and FeCl_2 is soluble ionic compound. Both have ions as major species in their solution.

TANKAN

Another ingredients Tankan (Borax) reacts with HCl and neutralise it as following.



DISCUSSION

Amlapitta is caused by aggravated pitta due to excessive intake of pungent and sour food items, alcoholic preparations, salt, hot and sharp stuff. This aggravated pitta cause burning sensations. To pacify the pitta, anger, fear, excessive exposure to sun and fire, intake of dry vegetables and alkalis, irregularity in taking food, and all pitta prakopak factors should be avoided¹⁴. Various drugs are described for treatment of Amlapitta. Among these Avipattikar Churna, Leela Vilas Ras, Amla-Pittantak Lauha, Triphala Mandur, Kushmand Khand, Prawaal Pancharit, Shankh Bhasm, Prawaal Pishti, Mukta Pishti, and Yavakshar are the main drugs. Sutshekhar Ras is used very commonly used in Amlapitta. But due to lack of scientific explanation, nobody wants to believe that it is as useful as allopathy drugs. After scientific explanation of its mechanism everyone has proud on the concepts of Ayurveda that it is also very scientific.

CONCLUSION

Sutshekhar Ras is a very commonly used drug in Amlapitta and it helps not only in reducing the symptoms but also maintains the health. The specially prepared lifestyle chart containing Ahara and Vihara helps in reducing the symptoms and maintaining the healthy lifestyle. This drug is very beneficial in this disease due to multiple actions such as anticholinergic and directly acting antacid.

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