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## A critical study of amadosa

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### Abstract

Ama (incomplete chyme, residual juice of indigested food) is a remnant of incomplete, improper digestion and metabolism without attaining proper finality. Ama makes an avastha (stage) where the component Ama in association with doshya dushayadi results in acute or chronic ailments. The peculiar and unique quality of Ama is to turn asamyukta (inassimilable) a tough bond with normal body elements. Because of this tough association, the dissociation and excretion becomes impossible. This quality of is compared with toxic manifestation of xenobiotics which are non excretable. If has to be made excretable, then it has to be converted from non excretable form in to excretable form. Or if it has to be made excretable, then it has to be converted into nontoxic or less toxic water soluble element. This is also similar to that of conversion of samadosha dhatu mala into nirama avastha where it is totally detoxified and its excretion is possible. The present study aims to evaluate the critical role of Ama Dosa.

**Keywords:** Ama dosha, mano vikara

### Introduction

The term Amadosa in ordinary parlance means unripe, uncooked, immature and undigested. However, in the context of medicine, this term refers to events that follow and factors which arise, as a consequence of the impaired functioning of Kayagni. Vagbhata Acharya quotes in Ashtanga Hrudaya sutrasthan in 13<sup>th</sup> chapter 25<sup>th</sup> sloka about Amadosa as-

Due to the hypo functioning or weakness of the Ushma (Agni), the initial body tissue (end product of digestion in the Gastro Intestinal Tract; i.e. Rasa dhatu) being not properly formed or transformed undergoes vitiation and return (retrograde) to stomach- is known as Amadosa.

The Hridayabodhika commentary of Ashtanga Hrudaya quotes in 13 chapter/25<sup>th</sup> sloka that the food on cooking, transforms into two as waste and essence. In turn, the essence is again cooked by the seven dhatwagnis. There, the first essence is cooked by Rasadhawagni. But, when the Rasadhawagni is weak and unable to cook the food essence properly, it does not get converted into a dhatu and so it is brought back to the stomach by the action of Vyanavata. This is due to the impairment of Rasagni, does not spread and so stay in the stomach in a vitiated state is what is called Amadosa.

The concept of Amadosa is unique in Ayurveda, it finds place in the genesis of almost all diseases and their management. After the food is ingested, digestion takes place; the essence of the food which is exogenous is absorbed into the portal circulation and is taken to the Liver for detoxification purpose. The exogenous food essence is converted into endogenous tissue, the blood. The blood thus contain not only the indigenized food essence which is the precursor for all the body tissues to come, but has with it, the already transformed Rakta dhatu also, as the transformation is an ongoing process. Thus, the portion of Rasa dhatu inside the portal system is exogenous, where as the Rasa dhatu along with blood in the systemic circulation is endogenous. When exogenous becomes endogenous, it attains a new functional status and responsibility. It has become a part of the body and is instrumental in providing nutrition to all the other tissues of the body. Further, a part of it is being continuously transformed to erythropoetic factors of the blood with the help of Rasadhawagni and Ranjaka pitta, attains red color and thus becomes the next tissue, Rakta.

The importance of Rasa dhatu in the maintenance of other tissues of the body is thus of paramount nature. But what happens when Rasa dhatu at the portal system itself is vitiated due to Agnimandya (weakness of digestion), the transformation to endogenous structure does not occur, as Liver will not accept a polluted half baked essence and so rejects it. Hence it has no other way than to come back to G I Tract (stomach) where it was initially formed. Here also it is not accepted as it is a pollutant and gets mixed up with half-digested food, becomes toxic in nature. This becomes the cause of all diseases, as it involves all tissues indirectly.

Rather, an Ama aspect is there in all diseases, as all diseases are in one way or other, concerned with metabolic error (agnidusti).

Charaka Samhita Chikitsa sthana 15<sup>th</sup> chapter/ 42 to 49 slokas describe Amadosa as- impairment of Agni may be brought about by irregular diet habits, incompatible food, consumption of cold food, mal effects of purgative, emetic and consumption of fat therapies, diseases due to wasting of tissues, allergic states due to changes in place, climate, season and suppression of natural urges. Due to impairment of Agni, even the most easily digestible light food becomes difficult to be digested. This attains an acetic type of fermentation leading to the onset of toxic states. There is also another of vijayaraksita that the first phase of dosa dusti is Amadosa.

In Ashtanga Hrudaya, sutrasthan 13<sup>th</sup> chapter 26<sup>th</sup> sloka there is a further reference of Ama to have been originated from highly vitiated humors itself by their interaction (conjugation) like visa (aflotoxins) develop in stored up/ edible Kodrava (kodo millet). Another view is that Doshas in contact with Ama, spoil the Dushyas and the diseases caused by them are all known as Sama (associated with Ama). As regards Sama, Vagbhata describes it as a condition in which Tridoshas and sapta dhatus as well as Malas become permeated with the Ama produced in the stomach. Diseases which arise in consequence are also spoken of as Sama type of diseases.

An analytical note here may be noteworthy. The classical description of Amadosa may be positioned at the slots of various diseases for easy apprehension. Examples are- the formation of free radicals in the gut, Ketone bodies in a diabetic patient etc. Thus, Ama may be likened to an intermediary product- a virus in the software of the body physiology. The presentation of Ama differs with its presence in the Dhatu involved. However, if a history of intoxication is present in a patient who has a Ama is to be considered as exogenous in nature (dusivisa). This also produces characteristic symptomatology in various Dhatu levels.

An extensive understanding of the causative factors is a must to avoid the formation of Amadosa as its formation shall be said to be a partial digestion and un-assimilation of food leading to toxicity. It occurs to one who is habituated to incompatible food, eating food before the digestion of previous food, and indigestion resemble Visa (poison) and is also known by that name. It is extremely horrible and not to be attended, since it is as lethal as poison, critical and invites treatment procedures that are contradictory to one another. This reference is available in Ashtanga Hrudaya Sutrasthan 8<sup>th</sup> chapter 13 and 14<sup>th</sup> sloka.

Describing Ama visha as a serious toxic condition, comparable only to acute states of poisoning, Vagbhata observes it as in a person, who consumes mutually incompatible articles of dietary or ingests heavy indigestible food, there arises Amadosa- a condition which exhibits a symptomatology comparable to that of visha and hence is harmful. Ama visha which is intensely toxic, may endanger life and as lines of treatment of Amadosa and visha are of opposite kind, the former has to be treated as one of the fatal prognosis.

The term incompatible food refers to food items which provoke the doshas, but do not expel them out of the body. These are liable to cause acute toxicity. Food poison by infected food material and the toxins produced by ingested microorganisms both come under Ama. In some cases it may even cause auto immune disorders in the long run. Amadosa requires treatment for both the cause and the disease itself. The cause is the production of Ama which needs treatment

modalities which are Agneya (heat producing) in nature. On the other hand, the condition to be treated resembles poison, the treatment principle of which is saumya (cool) in nature. Hence it is always wise to give up those afflicted with Amavisha.

### Literary review

Vagbhata Acharya also draws attention in Ashtanga Hrudaya sutrasthan 8<sup>th</sup> chapter 31 and 32 sloka to the fact that it is not always necessary that the ingestion of an excess food or over eating should result in every case as Amadosa. Other causes such as the use of a food for which one has an aversion or dislike or foods which may cause distention of abdomen or food items which are raw (uncooked), heavy to digest, dry, too cold, unclean (contaminated) and capable of causing internal burning, dehydrated food and food soaked in too much of water for a long period of time can also cause Amadosa. Even so, while eating mental stress such as rage, grief, hunger etc., may also give rise to Amadosa. Functional bowel diseases like Irritable Bowel Syndrome or a group of diseases that are navigated by the nervous system, are reined by the psyche. Anxiety plays a key role in their genesis.

The main factor concerned in the production of Ama is Mandagni (dull gastric fire) and the impairment of the mechanism responsible for the secretion of gastric juices. It is in this state the foods ingested produce Ama.

### Tridoshas with Ama is Sama dosha

Ashtanga Samgraha in sutrasthan 21<sup>st</sup> chapter 33 to 35 sloka explains the adhering of Tridoshas such as Vata, Pitta and Kapha with Ama dosa is called as Sama dosha and exhibits the following signs and symptoms in human body. Vata on adhering with Ama causes pain in abdomen and flatulence (distention of the abdomen with gas) and absence of elimination of flatus, urine and faeces. Pitta dosha on adhering with Ama dosa will exhibit foul smell in mouth, black color in vomit, pungent taste in mouth, appears thick and heavy in consistency. Kapha mixed with Ama dosa will be turbid, thread like, solidified, sticky (gummy). They all exhibit opposite to these signs and symptoms when they get detached from Ama by treatment procedures. Pitt is to be considered Pakwa (properly formed, well processed) when it exhibits the opposite qualities and also has color like copper, eye of peacock's tail (dark blue in color) or yellow and a clear fluid. Kapha is considered Pakwa when it is seen as clear fluid or as small pellets, non-slimy, mixed with bubbles (froth) white in color and sweet in taste.

The ingested food undergoes transformation (digestion) inside the alimentary tract by the agency of Koshtagni (digestive fire) otherwise called as Pachaka pitta (digestive juices having fire like activity). At the end of digestion, the essence of food gets separated. It undergoes further processing and gets transformed as Rasa dhatu- the first liquid tissue of the body. When the digestive juices are normal in their quantity and quality, the Rasa dhatu will be properly formed, adequately processed. This is what happens during health. If on the other hand the Koshtagni is poor in quantity and quality all the food materials are not digested adequately and properly. As such, undigested materials accumulate and the Rasa dhatu that gets formed will be having less or more of these undigested materials. These materials act as poison (Ama visha-endo toxins) in the body. When the Rasa dhatu circulates all over the body in its normal routine, these poisonous materials are pervaded to all parts of the body. They stagnate in places and give rise to the onset of diseases there. The doshas which are

also circulating along with the Rasa dhatu gets mixed with the undigested materials, thereby becoming Sama dosha.

### How to prevent it?

“Prevention is better than cure” is the advice of any medical professional. To prevent the formation of Ama dosa, Ashtanga Hrudaya in sutrasthan 8c / 1<sup>st</sup> sloka says that, one should take the right quantity of food always (at all meal times), since it is the quantity which helps maintain proper digestive power. The quantity of food to be taken depends on the gurutva (heaviness) and laghutva (lightness) properties of the food stuff. The recommended quantity of intake of food substances having guru guna (property of heaviness) is half the amount of satiety whereas food items having laghu guna (property of lightness) are to be taken in quantity which does not cause much satiety; because only then, does it undergo easy digestion.

Laghu dravyas are constituted predominantly of Agni and vayu bhutas which promote digestive power (jatharagni) whereas guru dravyas predominantly consists of prthvi and jala bhutas which weakens it. Thus, laghu dravyas undergo digestion very quickly whereas guru dravyas are difficult to be digested. Hence is the difference in the quantity of their intake. It is much appreciable to consume guru dravyas in amount which is either half or one third of the quantity for satisfaction and the right quantity of food is that which does not disturb the equilibrated state of doshas and dhatu.

### What happens on excess food consumption?

Food when taken in excess vitiates all the doshas. The food which attains Ama state vitiates food taken further, which in turn vitiates doshas. Together, these vitiated food and doshas again reciprocally possess the ingested food, obstructs and stagnate to cause Alasaka (a state where the food stays lazy in the stomach). The same, if discharged through the oral and anal orifices (as vomiting and dysentery), is known as Visucika.

As the digestive capacity of an individual varies from others, it becomes the responsibility of the individual to decide the quantity of consumption of heavy or light substances in food. To enhance or kindle the fire in a homa kunda, we observe the droppings of piece of wood, cow dung cakes and ghee. The fire in human gut can be compared to the homa fire here and the droppings are compared to food items which are light in nature to enhance its power. Thin porridge made out of fried boiled rice, hot rasam prepared with jeera, pepper and turmeric are some of the examples that can be quoted here to keep the gut fire in a good condition to avoid Ama formation. Flour items, sweets, too much of fatty items come under heavy articles and are suitable for humans who naturally have a good digestive capacity and so do not suffer from the formation of Ama dosa. However, some food products which are by nature are light or heavy can be transformed into an opposite nature by the method of processing. Raw rice when cooked becomes light, but when processed with jaggery as sarkara pongal, it becomes heavy to digest. Wheat by nature is heavy but when prepared as chapatti without adding ghee or oil in it and heated on the wire gauze as chukka roti, becomes light and so it gets easily digested.

Intake of a heavy item by those habituated to lighter items will bring in difficulty in digestion and those who eat heavy items on a regular basis due to strong appetite, when consume lighter food items suffer out of insufficiency thereby leading to giddiness, weakness and fatigue. Those who do regular physical exercise and those who carry out hard work daily for

their livelihood, having good strength by nature, have a strong jatharagni and so can digest heavy items with ease. Those who are lazy and have poor physical strength would find even light articles difficult to digest.

Seasonal variations can alter the digestive power in humans. In early winter, the cold atmosphere brings about blockade to the dissipation of body heat which in turn increases the digestive power in strong men. In the absence of adequate fuel (food supplements), this strong digestive fire, persuaded by Vayu, breaks down the body tissues. So in Henantha (early winter), it is advisable to consume more of sweet, sour and salt tastes. This does not create Ama dosa in the human gut.

### Psychiatric disturbances caused by Amadosa

It is further documented by Vagbhata in Ashtanga Hrudaya sutrasthan chapter 1/21 that two other doshas also exist by name Rajas and Tamas which are concerned with psyche. Human mind possesses three qualities; namely satva, rajas and tamas. Satva guna represents the qualities of knowledge and happiness. Rajas symbolize lust, anger, pride, aversion and action whereas tamas is indicative of fear, ignorance, inertia and confusion. Partial digestion and un-assimilation of food leading to toxicity acts as a polluted exogenous material on reaching the Manovaha srotas (mind carrying channel) on its arrival and stands in favor of tamas as the properties of both match with each other in terms of their slyminess, smoothness, chillness, unctuousness, heaviness and dullness. This acts as a pollutant of the mind with the help of rajas as facilitatory and thus converting the tamas as inhibitory. When these two manodosas rule the intellect, it leads to various mental disorders. It is also to be noted here that the bodily tri doshas such as Vata, pitta and kapha when get corrupted by Ama dosa can inflict their complications in mind and the pollutants of mind such as rajas and tamas can affect the body which is then called as psycho somatic disorders.

To avoid all these confusion regarding the digestion of food, Ashtanga Hrudaya in sutrasthan 8<sup>th</sup> chapter, 56<sup>th</sup> sloka lies down certain commandments to follow in daily food intake which is noteworthy for all to practice on a daily basis. They are- When faeces and urine are excreted, hrdaya (stomach, also mind) becomes clear, doshas traverse in their right pathways, belching becomes clear, hunger begins and Vata functions properly, digestive power increases, the body becomes light and capable of perceiving the senses; food is to be taken, as it is the right time scientifically recommended for food intake.

The whole universe including the living body is an aggregation of satva, atman and sarira. Among these three basic constituents, atman which form the seat of consciousness and intelligence, is eternal and hence is not affected by Amadosa or any other diseases. Hence satva or mind and sarira or physical body forms the adishtana (substrata) of diseases. Generally, diseases like fever affect human body whereas emotions affect human mind.

### What amadosa does to mind?

Charaka Acharya in sareerasthana 1c/20-21 sloka has described the objects of mind as thoughts (cintyam), consideration (vicaryam), hypothesis (uhyam), attention (dhyeyam), determination (samkalpam) or whatever can be known by means of mind are regarded as its objects. Control of sense organs, self-restraint, hypothesis and consideration represent the action of mind. The food when not properly assimilated and enter the channels of the mind, puts a coating in the inner walls of the channels with properties attributed to

Amadosa such as pichilitava (sliminess), Gurutva (heaviness), seethatva (chillness), mandatva (dullness), stiratva (firmness) which will hamper the performance of the mind at large. Moreover these properties which are more inclined towards the properties of Kapha dosha in nature, add more of Tamoguna to the mind thereby not allowing it to function the mind more towards the goal of achieving emancipation of human birth as it blocks the functional units of the mind. Satva guna on the other hand, will lose its identity and it becomes lack lusture in performance due to the clouding of Tamas on it. However, Rajo guna, tries its best to eliminate the Tamas from the cover, it is unable to do so due to the dominance of Tamas is more in this condition than Satva and Rajas. So, food plays a major role not only in the nourishment of body alone but also mind in the maintenance of Satva, Rajas and Tamas for the individual to perform in accordance with the food intake. This is clearly perceivable in humans who land up with stomach ailments due to Amadosa also have complaints in psychic level of their life.

The formation, development and nutrition of the body tissue are based on those dietetic materials which are made of the five gross elements such as Earth, Water Fire, Air and Space. These substances are also helpful in the development of Mind. As the manas is developed and affected by diet and food (Anna), it is called a person develops aversion to the wholesome diet due to continuous use or want of palatability, it should be made delicious again by processing with various methods of preparation. Due to favorableness of sense object and manas attains satisfaction. Energy, strength, happiness are promoted leading to the reduction in the intensity of the disease that one may suffer from. Chandogya Upanishad 6/5/1 describes that the gross part of the food generates faeces; the middle portion develops muscular and other body tissues, while the subtle parts nourish the manas. The development of manasa temperament is affected by tastes which are formed by the five gross elements. To site an example, sweet taste has a soothing effect on five senses and manas and drugs and diets having sour taste enlighten the manas. So the mind of a person depends upon the diet which he uses.

To avoid the formation of Amadosa and to get the essence of food in full, Vagbhata Acharya in Ashtanga Hrudaya sutrasthan 8c/ 46<sup>th</sup> sloka advises that culinary which are heavy, unctuous, sluggish, stable and sweet like lotus filament, sugarcane, banana, jack fruit, mango, laddu are to be taken first of the meal and where as those with opposite properties should be taken at the end of food intake. Eatables that are prominently amla (sour) and lavana (salty) in taste should be taken in the middle of food. Acharya also advises that half of the stomach is to be filled with food and one fourth with water. The rest of the stomach is to be left empty for the doshas (to aid normal physiology of digestion).

To remain healthy and avoid the coating of inner channels of the body concerned with the digestion by the formation of Amadosa, Acharya further states that timely intake of food, items which are accustomed to, clean, pleasing and having properties of unctuous, light and hot is desirable for use. It should have six tastes with predominance of sweet taste. It should predominantly be in liquid form and delicious, prepared and served by cooks who are clean and affectionate. Food is to be taken after bathing, washing the hands, legs and face, and gratifying forefathers, deities, guests, children and preceptors. Pet birds and animals also should be satisfied with eatables before taking food. It is to be taken when one feels hungry, staying at a secluded place, fully devoted on it; after considering the current body status and without abusing the

food. Talking while taking food is not desirable. Do not eat food too fast, or too slow. Food is to be taken in the company of the beloved. Food contaminated with grass, hair etc. and that, which is heated again, is not good for health. Habit of taking food predominantly of leafy green vegetables, and pulses and that which is extremely hot and salty is to be avoided.

Modifications in adding water level to curd, alkaline preparations, and vinegar, uncooked radish, meat of emaciated animals, dried meat, pork, meat of sheep, cow, fish and buffalo, black gram, bean, tuberous roots, the fiber of lotus, sweets prepared by grinding cereals, sprouted seeds, dried leaves and molasses are all undesirable for regular use.

Avoiding the formation of Amadosa is vital for all humans as it causes an unhealthy situation in the intestinal gut along with clouding of mind carrying channels. To facilitate an easy digestion as well as healthy way of living, Vagbhata Acharya in the same eighth chapter further adds that, edibles prepared with cereals like sali, swastika (two varieties of paddy; the later called navara rice), wheat, and barley; condiments prepared of meat of animals of arid land, amaranthus, jivanthi, radish which is immature, basal, pathya (*Terminalia chebula*), Indian gooseberry, grapes, snake gourd and green gram are desirable for regular use. Sugar, ghee, rain water, milk, honey, pomegranate and rock salt can also be used regularly. Taking Triphala mixed with honey and ghee is good for the health of eyes and so can be practiced regularly. In short, dishes that are capable of promoting health and curing diseases are suitable for regular use.

The concept of Anupana (after drink) is note worthy in this concept as it paves a way for quick digestion and take in the nutrients for cells to convert into energy. This prevents the formation of Amadosa in the gut of the humans. Here are few examples to site for Anupanam- In case of barley, wheat, curd, alcoholic beverage, lotus fiber, and honey, cold water should be taken as Anupana. In case of eatables prepared by grinding rice paste, luke warm water is the Anupana. Whey, butter milk, and seasoned rice water, (all are sour) are to be taken as Anupana along with dishes made of leafy green vegetables and pulses. Beer can be taken as Anupana so as to nourish the emaciated ones. The recommended Anupana in emaciating diseases/ consumption is meat soup; while after taking meat and in those with weak digestive power, it is beverage.

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