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## **Review Article**

## CONCEPTUAL STUDY OF AMA AND ITS MANIFESTATION IN VARIOUS DISEASES

# Gahalawat Manpreet<sup>1\*</sup>, Gahalawat Preeti<sup>2</sup>, Kumar Krishan<sup>3</sup>

\*¹P.G. Scholar, P.G. Department of Ayurveda Samhita and Siddhant, ²P.G. Scholar, P.G. Department of Kayachikitsa ³Associate Professor, P.G. Department of Ayurveda Samhita and Siddhant, Shri Krishna Govt. Ayurvedic College, Kurukshetra, Haryana, India.

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#### **ABSTRACT**

Like the theories of *Tridosha*, *Sapta Dhatu*, and *Trimalas*, the concept of *Agni* and *Ama* are very unique conceived in Ayurvedic texts. The concept of *Ama* encompasses an almost whole spectrum of diseases mentioned in Ayurveda. In the Ayurvedic view, nearly all diseases have their origin in *Ama dosha*. In Ayurveda, the word *Ama* and *Pakva* are very important to understand the theories of pathology and treatment according to Ayurveda. The success or failure of the Ayurvedic Physician in treatment depends upon the understanding of two conditions, *Sama* and *Nirama*-immature and mature. In *Ama dosha langhan* or fasting is the general form of treatment. Even medicine is forbidden in acute conditions. As the *Jathragni* is already weak and struggling to digest *Ama*, it can't digest the medicine, another newcomer. The interaction of *Doshas*, food, and medicine may cause even fatal results.

### INTRODUCTION

As all Ayurveda learners know that the purpose of Ayurveda is to maintain the health of a healthy person and to treat the illness of diseased persons. In both contexts, if we think deeply then we can conclude that there is the prime importance of Ama. Because Ama is the root cause of all the diseases[1]. That's why the disease is given the synonym '*Amaya*<sup>[2]</sup>'. In the case of a healthy person we have to prevent the formation of *Ama* and in a diseased person, we have to eliminate the produced *Ama*. There are various views of different Aacharyas about the concept of Ama. Ama dosha and Ama visha are conditions that are stated to occur due to the impairment of Agni. Ama is called Ama dosha because like the *Doshas* it vitiates the *Rasa dhatu* and through it the other *Dhatus* and *Malas*, and sometimes designated as Amavisha[3] because Ama spreads very quickly like a Visha (poison) and vitiates the Dhatus and affect the senses also like a Visha.

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Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) So here is an effort to clarify the concept of *Ama* from an Ayurvedic point of view along with its relationship with various diseases.

**Definition of** *Ama*: There are various definitions of *Ama* given in Ayurvedic texts:

- According to *Amarkosh Ama* is something that is not digested properly and needs further digestion.
- Aacharya Vagbhatta stated that Ama is that Apachita or undigested/ inadequately digested Anna rasa which has got vitiated within the Amashya due to hypo functioning of Ushma/Agni<sup>[4]</sup>.
- Aacharya Bhavmishra in the 16<sup>th</sup> century also gave a similar account of *Ama*. The essence of food taken, which is not properly digested due to the hypo functioning of *Agni* is called *Ama*, which is the basic cause of many diseases<sup>[5]</sup>.
- Vijay Rakshit also has a similar opinion on Ama and its complications. He considered Ama as undigested Aahar rasa due to Agnimandya. He specified that Ama is the root cause of all diseases<sup>[6]</sup>.
- Vijay Rakshit has also given various views about *Ama*. These are as follows:
- 1. It is unripe / partially digested *Aahar rasa*.
- 2. It is the accumulation of Malas.
- 3. It is the initial stage of vitiation of *Doshas*.

Hence it is clear that there are various views about the origin and definition of *Ama* but all Aacharyas unanimously were of the view that this *Ama* is a partially metabolized substance that is very harmful/toxic to the body and surely the cause of all diseases.

Causes of Production of Ama: Taking food in excess or foods that are Viroodha, Guru (heavy) i.e., beyond Matra (beyond proper measure) is the chief cause of the production of *Ama*. The excess of food may depend upon Amatra guru, Samskaara guru, Samyoga guru, Swabhava guru etc. This is to be settled by the person himself. Amaatra is the chief cause of Ama dosha. Aacharya Charak says the capacity of *Amashya* is to be divided into 3 parts- 1/3rd of it should be filled by solids,  $1/3^{rd}$  by liquids and  $1/3^{rd}$  is to be kept empty. And Aacharya Vagbhatta says that ½ should be filled with solids, 1/4th by liquids and 1/4th kept vacant to enable the Doshas to move freely and do their functions properly. Aacharya Charak says that not only the Amatra i.e., excessive foods but also foods which are Guru (heavy), Ruksha (dry), Sheeta (cold), etc. are Ama generating. These are designated as Apathya aaharas. Even when proper food is taken according to proper measure, the digestion may be absent by emotions such as Chinta (brooding), Sokam (sorrow), Bhaya (fear), Krodha (anger), Dukha (worry), Sayya (excessive sleeping) and Prajagrana (waking up in nights). This explains the psychosomatic relation in the causation of diseases which are now greatly prevalent on account of certain conditions depending on hurry, worry, and selfishness due to modern civilization.

**Types of** *Ama***:** *Ama* can be of many types according to its formation and action. Basically, it is divided into two categories one is *Agni sapeksha ama* which directly depends upon the improper function of *Agni* and another one is *Agni Nirpeksha Ama* in which the role of *Agni* is secondary. *Agni sapeksha Ama* is produced due to *Agnimandya*. And as we know *Agni* is of 3 main types i.e., *Jathragni, Dhatwagni* and *Bhutagnies,* same is *Agni sapeksha ama*.

# Agni Sapeksha Ama- Types:

- 1. Produced by the impaired function of *Jathragni*.
- 2. Due to the impaired function of *Dhatwagni*.
- 3. Due to impaired functions of *Bhutagnis*.

These three main categories are further divided into states as follows:

- **1.** *Jatharagni Mandya*: One type.
- **2. Dhatwagni Mandya:** Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra
- 3. Bhutagni Mandya: Parthiva Bhutagni, Aapya Bhutagni, Taijaseeya Bhutagni, Vayavya Bhutagni, Akasheeya Bhutagni

Agni Nirapeksha Ama: Here the formation of Ama is not directly due to the impaired function of Agni. But Agni dusti occurs as a result of primary Doshik pathology. This Ama is produced due to vitiation of Doshas, ingestion of Viroodha aahar, Atimatra aahar, or any other Aguntaja drvyas. In Matrasheetiya Adhyaya Aacharya Vagbhatta stated the Guru and Atimatra anna sewan does the Prakopa of Doshas. Excess food intake will lead to obstruction in the pathway of food digestion. And food that remains stagnated in Amashya, will compress the Doshas and agitates all of them simultaneously. This form of Ama can produce its poisonous effect in any limited region of the body (local) or over the whole system (systemic).

**Different States of** *Agni Sapeksha Ama*: Before understanding the concept of *Ama* it is essential to know about the various states of *Ama*. *Ama* can be seen in 4 levels according to the localization of deranging *Agni* and respective stage of *Paka*, where it is formed.

- **1.** *Apakwa Anna Rupa Ama*: The vitiated *Agni* due to its natural cause is unable to digest even the *Laghu aahar*<sup>[7]</sup>. So ingested *Laghu aahara* also remained indigested called *Ama*.
- 2. Anna Rasa Rupa Ama: If Jathragni is functioning properly there will be proper digestion of food which leads to the formation of Anna Rasa which in turn undergoes proper metabolism (Pripaka). If Jathragni is defected i.e., Jathragni Dorbalya will lead to improper metabolism of Annarasa and this partially metabolized Annarasa cannot undergo the normal Dhatwagni metabolism for further Parinama. This Apakwa Annarasa is retained in Amashya and produces Ama, which is interpreted as Anna rasa rupa ama.
- **3.** *Mala Sanchaya Rupa Ama*: In the whole process of digestion, some *Malas* are also produced which in fixed quantity bears the body but if accumulated in excess turn toxic causing serious illness. This accumulated *Mala rupa ama* is responsible for the production of all diseases and is termed as *Mala Sanchaya Rupa Ama*.
- **4.** *Rasa Shesha Rupa Ama*: In process of digestion sometimes due to *Agnimandya*, some *Aahar* is partially digested while some parts are left totally undigested and this leftover *Aahara rasa* is termed as *Rasa Shesha Rupa Ama*.

### Different States of Agni Nirpeksha Ama

1. First Stage of *Doshik* Vitiation: *Dosha* vitiating *Nidanas* responsible for *Sanchya* and *Prakopa* of *Doshas* in the body and thus cause intense vitiation of *Doshas*. When one *Dosha* gets vitiated it further vitiates other *Doshas* and produces a highly toxic product i.e., *Ama* by intermixing of these deranged *Doshas*. In the modern idiom, the concept of Autoimmunity has a similar concept. The major histocompatibility complex determined by Human

leukocyte antigens marks the surface proteins of all the cells of the body. This is responsible for the identification of self and non-self by the T- cells (cell-mediated immunity). When the T-cells fail in this recognition then the immune system starts secreting antibodies against the body's self-proteins producing many fatal diseases termed as Auto-immune diseases.

**2.** *Agantuja Ama: Ama* which is specially produced due to external factors is termed as *Agantuja Ama*. Even the endotoxins produced by some parasitic bacteria etc., also comes under this category.

**Properties of** *Ama:* For the clinical manifestation of *Ama* first, we must have to know the exact properties of *Ama.* Properties of *Ama* are: *Guruta, Avipakvata, Durgandha, Dravata, Pichillta, Snighta, Anekavarn yuktata, Tantumatwa.* 

Manifestation of *Ama:* All Aacharyas have obviously stated that the basic cause of all diseases is *Ama.* It can be well understood by its various stages and how it is produced in the body. *Dosha, Dhatu,* and *Malas* within the body are the media through which various diseases are produced in the body. Aacharya Vagbhatta in *Matrasheetiyam aadhayaya* has used the words '*Ashu*' and '*Yugpat*' for *Ama* which shows its highly destructive nature.

Relation of *Ama* with *Tridoshas*: When *Ama* produced in the body gets associated with any of the *Tridosha*, the condition is termed as *Sama dosha awastha*<sup>[8]</sup> i.e., *Samavata, Samapitta*, and *Samakapha*. On the other hand, when there is no *Sansarga* of *Ama* with *Tridosha* and the *Dosha* itself acts as *Ama* the condition is termed as *Ama dosha awastha*. Aacharya Sushrut explained the nature of *Vikaras* produced by *Ama*, with respect to site of formation and related *Doshik* involvement<sup>[9]</sup>.

Relation of Ama with Vata Dosha: Association of Ama with vata produces clinical symptoms like Agnimandya, Vibandh, Tandra, Angatoda, Adhamana, Angagraha, Shaityata, Arti, Katuruksha Abhilasha, Balanasha, Varna Nasha, etc. When Vata itself is produced as Ama, the condition is difficult to differentiate clinically but when understood minutely it becomes clear like in congenital deformity- Vata is not produced properly and its functions are not performed properly. For example- Spina Bifida. Here spinal cord is defected and the functions of nerves are impaired due to improper functioning of Vata dosha.

Relation of *Ama* with *Pitta Dosha*: Association of *Ama* with *Pitta dosha* produces symptoms like *Kanthadaha, Hridadaha, Mukhpaka, Ishatkrishan varna, Amlarasa, Amlodgara, Durgandha,* etc. Such conditions can be correlated with the conditions of the GI tract when the function of digestive juice is impaired and they are unable to digest the food. *Pitta* itself produced as *Ama* can be clinically seen in Pancreatitis where

normal intestinal juice is not produced and symptoms of indigestion appear. Here both the conditions are quite clear to understand. In the first one *Pitta* is produced normally but due to its *Sansarga* with *Ama*, it becomes *Samapitta* and becomes unable to digest food. Whereas in the other condition the *Pitta* produced by the pancreas is not normal and is termed as *Ama pitta* which in turn impairs digestion.

Relation of Ama with Kapha Dosha: When Kapha got sansarga with Ama the symptoms produced are Avilata. Sandrata. Durgandha, Kanthliptata, Tantumatva, Pichillata, etc. Clinically it can be well understood in conditions like RA where produced Ama goes to the site of *Sleshaka Kapha* i.e., *Sandhies* (Joints) and adheres with Shleshaka kapha and impair that particular joint function. When Kapha itself is produced as Ama it causes structural deformity. Clinically this condition can be well understood in conditions like Hydrocephalous where the production of Tarpaka Kapha is improper which leads to this condition.

**Relation of** *Ama* **with** *Dhatus:* Due to *Dosha* vitiating *Nidanas,* the vitiated *Dosha* and *Agni* lead to vitiation of *Dhatus.* So *Ama* and *Sama* state of every *Dhatu* are now described in short.

Relation of Ama with Rasa Dhatu: When healthy Rasa dhatu gets associated with Ama produced due to improper Agni then the functions of Rasa dhatu get impaired; the condition is termed as Sama rasadhatu. It produces symptoms like Aruchi, Angmarda, S<mark>roto</mark>rodh, Agni Nasha, Mukh vairasya, Hrillasa, Tandra, Gaurav, Khalitya, Palitya, etc. This condition can be well understood clinically in the case of lymphadenitis where any infection produces exo and endotoxins in the lymph which are filtered by lymph nodes and produces lymphadenitis. Due to this swelling and excessive filtration in lymph glands, the obstruction in the further flow of lymph occurs which in turn produces symptoms like fever, anorexia, malaise, etc. When Rasa dhatu is not produced properly then it acts as *Ama* and the condition is termed as *Ama rasa dhatu*. This can be easily understood in conditions like DM, where the action of insulin is impaired which in turn produces excess glucose, and instead of being beneficial, it produces various pathologies in the body.

Relation of Ama with Rakta Dhatu: Sama rakta dhatu produces symptoms like Kustha, Visarpa, Arsh, Arbud, Gulma, Gudapaka, Mukhpaka, Raktpitta, Asrigdara, Vatarakta, Switra, Koth, Kamla etc. The conditions where unwanted substances like endotoxins are introduced into the blood are considered as Samarakta dhatu awastha. In this condition, the additional substances present in the blood disturb the normal action of blood. On the other hand, the 2<sup>nd</sup> condition i.e., Ama awastha of Rakta dhatu can be well understood in conditions where the blood cell

production is not normal like in Sickle Cell Anemia. In this condition, structural deformity occurs in red blood cells which impair their normal function.

**Relation of** *Ama* **with** *Mamsa Dhatu***:** The symptoms produced due to Sama mamsa dhatu and Ama mamsa dhatu are Galgand, Gandmala, Mamsarbuda, Granthi, Adhimamsa, Adhijihwa, Galashundika, Kantha roga, etc. Mamsa dhatu produced as Ama can be better understood conditions of pseudomuscular in hypertrophy. In this condition, the muscles are produced much bigger than normal size and are unable to perform even normal functions. In this condition, the improper action of Aani on Rakta dhatu leads to the formation of improper Mamsa dhatu. Hence the structural defect is observed. Sama mamsa dhatu condition can be better understood in the case of excess accumulation of lactic acid in Mamsa dhatu which in turn produces severe pain and loss of function without any deformity.

Relation of Ama with Medo Dhatu: In Sama and Aam medo dhatu condition the symptoms/ diseases produced are prodromal signs of Sthaulya, Prameha, Atisweda, Arbuda, Gaurav, etc., when Dhatwagni *Mandya* occurs it leads to more *Dhatu* production but that produced *Dhatu* is not healthy *Dhatu* but it is *Ama* Dhatu. It can be better understood in conditions like hyperlipidemias, hypercholesteromias, or conditions in which excess fat deposition occurs. These all are termed as Ama awastha of Medo dhatu. Whereas Sama medo dhatu awastha is a condition of cholesterol, and stones in the gall bladder. Here the cholesterol metabolism is not much disturbed. In this condition, the stone is formed due to the addition of other substances which act as Ama. Hence the normal Medo dhatu sansarga with Ama leads to the formation of stone.

**Relation of** *Ama* **with** *Asthi:* The diseases produced due to *Sama* and *Ama awastha* of *Asthi dhatu* are *Adyasthi, Adhidanta, Asthishoola, Asthitoda,* etc. Due to *Asthi dhatwagni mandya* various structural defects are noticed. Osteoporosis and Osteophytes formation are the conditions where the *Ama* bone formation takes place. In conditions like osteomyelitis, and Paget's diseases the accumulation of *Ama* is seen in *Asthi dhatu* which impairs its normal function.

Relation of Ama with Majja Dhatu: Symptoms produced due to Sama and Ama awastha of Majja dhatu are Murcha, Bhrama, Tamodarshana, Gaurav, Arunshika, Netra Abhishyanda, Parvaruka, etc. Ama awastha of Majja dhatu can be better understood in conditions like Congenital bone marrow depression. In this condition, the normal function of bone marrow is hampered due to its structural defect. While the Sama majja dhatu condition is better understood in acquired bone marrow depression. Where any infection causes the deposition of toxins and leads to this condition.

Relation of Ama with Sukra Dhatu: The symptoms produced in Sama and Ama awastha of Sukra dhatu may be Alpayushtvam, Garbhasrava, Klaibya, Garbhajanaktvam. The condition of Ama sukra dhatu occurs in diseases where the formation of Dhatu is not proper like in Oligospermia or Azoospermia etc. Sama sukra dhatu occurs in conditions like Pyospermia.

**Relation of** *Ama* **with** *Malas: Dosha, Dhatu,* and *Malas* are the *Moola* (Base) of the body, which means normal functioning, and the amount of *Dosha, Dhatu,* and *Malas* is necessary for the proper functioning of the body. Each *Dhatu* has its own *Mala* but we will discuss the 3 main *Malas* i.e., *Mutra, Purish,* and *Sweda*.

Relation of Ama with Purish: When Purish gets associated with Ama it produces symptoms like Atidurgandhita, Ajirna, Vistambha, Kukshishoola, Atopa, Gaurav, and Ama mala (sinks in water), and other Udara vikaras. In Sama purisha, Awastha purish gets Samsarga with Ama and this can be clearly seen in cases of dysentry in which stool comes associated with mucus. Ama purisha awastha can be seen in steatorrhoea. In this condition, the stool is not associated with Ama but due to abnormal functioning of agni stool does not form properly and itself acts as Ama.

Relation of Ama with Mutra: Sama and Ama awastha of Mutra represent symptoms like Basti peedan, Avilmutrata, Atyadhika mutra nirharan. Sama mutra awastha can be seen in cases of Diabetes Mellitus where excessive sugar is excreted through urine and Ama mutra awastha can be seen in cases of renal failure where urea and creatinine amount is varied.

**Relation of Ama with Sweda:** Sama and Ama awastha of Sweda show symptoms like Kandu, Twak rukshta, Durgandha etc.

## **CONCLUSION**

Thus it can be concluded that *Ama* is something that obstructs the channels of the body and interrupts their normal functioning. When Ama combines with Vatadi doshas it immediately creates Dusti in a wide area involving all Dosha, Dhatu, and Malas. When Dosha, Dhatu, and Malas get vitiated they produce various complications. This Ama has the power to invade all the body elements and produce a chain of vitiation of Dosha, Dhatu, and Mala by vitiating them. It produces multiple blockages and nutritional deficiencies. Due to Ama the unwanted metabolites and excreta of the body are not expelled properly and remain stagnated in the body thus resulting in low immunity and many ailments.

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# \*Address for correspondence Dr. Gahalawat Manpreet

P.G. Scholar,

P.G. Department of Ayurveda Samhita and Siddhant, Shri Krishna Govt. Ayurvedic College, Kurukshetra, Haryana, India.

Email:

manpreetpreeti157@gmail.com

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