CONCEPTUAL STUDY OF AMA AND ITS MANAGEMENT: A REVIEW

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ABSTRACT
Majority of the endogenous diseases actually begin with the formation of Ama, which has tremendous capacity to vitiate the dosas, thus disturbing the homeostasis (dhatu-samya). Deranged Agni, causing impaired digestion and metabolism, leads to availability of incompletely processed food components and metabolites in the system. These substances which bear a threat to the health of a person, are designated as Ama. In addition to hypofunctioning of Agni, caused due to obstinence from food, indigestion, overeating, irregular diet habits, consumption of cold substances, ill effects of panckarma, wasting of tissues, suppression of natural urges etc., mental stress such as rage, grief and hunger etc. may also give rise to Amadosa. The concept of Ama is the most important fundamental principle of Ayurveda in understanding the physiopathology of the diseases. Aamvichar have own importance in Nidan & Chikitsa of disease. The choice of kalpa changes according to Sama and Niram avashta.

KEYWORDS: Agni, Ama, nidan, chikitsa.

INTRODUCTION
Ama is a generic term for food that is absorbed into the system without having first been properly digested. Such material cannot be used by the system and acts to clog it. It is cleared from above citation that Ama is the resultant of hypofunctioning of Jatharagni as well as Dhatvagni. There are mainly three levels of Ama viz - Ama annarasa (untransformed food
material) at the gastrointestinal level, *Malasanchaya* (collect of metabolic waste) and *Prathma Dosha-dusti* (sudden vitiations of *Dosha* due to extrinsic factor).

*Agni* becomes impaired because of an imbalance in the *Tridosha*, the metabolism is drastically affected food materials remain undigested and unabsorbed. That material Posses the property of *Visha* or toxin substance, accumulate in the body, which is called *Ama*. Due to low and slow of *Agni* leads to formation of improperly digested initial *Rasadhatu* or *Annarasa*, this undergoes fermentation and putrefaction being retained in the *Amashaya*, called *Amarasa*, i.e. *Ama*. It has been described as sticky, foul smelling toxin substance within the body. *Ama* also formed by bacterial invasion. Bacteria emit toxins into the system and aggravate *Ama*. The body has a capacity to acclimatize even the changes in weather. But when these two i.e. digestion and metabolism is poor or acclimatization cannot properly take place, some foreign material is accumulated, called as *Ama*.

**Etymology**

Word *Ama* has its origin from root 'Am', with the suffix 'Ninj' having the Meaning i.e. the substance, which is not digested properly and needs further digestion. i.e. substance which is incompletely metabolised or partially metabolised is called as *ama*. i.e. the substance which creates disturbance in *srotas* (channels) is called *ama*. Again the word *ama* in literal meaning can be seen as= (as a prefix to verbs and nouns) near, near to, towards.= poison.

So *Ama* denotes a substance or group of substances which is near to poison or acts like a poison. So a substance which harms normal healthy state of body or any part of body can be considered as *Ama*. Therefore depending upon etymology *ama* can be described as - raw, uncooked, unripe, immature, undigested or incompletely oxidised/metabolised or similar to a poisonous substance.

**Symptomatology of Ama**

Various symptoms produced due to presence of *ama* in body, are described in texts. These symptoms help in diagnosis of *ama* clinically. *Sama* and *nirama* stage of disease can also be identified with presence or absence of these symptoms. Symptoms described by *Vagbhatta* in *Astag Hrdya* are:

Here *srootorodha, balabhransa, gaurava, anilamudhta alaysa, apakti, nisthiva, malsanga, aruci, klama* are described as the symptoms produced due to *ama*. Also many symptoms are described by *Acarya Madhava* in chapter of *Amavata* which can be summed as - *angmarda,*
trsna, jwara, suntanganam, praseka, utshahani, vairasyata, daha, bahumutrata, kukshikathinta, nidraviparyaya, chardi, srama, murcha, hrdgraha, vidavibandham, jadyata etc. Let us consider these symptoms separately.

(1) *Srotorodha:* Normal functioning of *srotas* are important in maintaining healthy state. Due to the properties like *picchilta, snigdhata* etc. *ama* adheres to walls of srotas and as a result lumen of *srotas* becomes narrowed. Once this narrowing of lumen occurs, the normal functioning of *srotas* gets disturbed and this leads to disease production. This mechanism is common to both micro and macro channels, and accordingly disease of that *srotas* is produced.

(2) *Balabhramsa:* It is caused due to systemic effect of *ama* while circulating in body. It is also because of lack of proper nutrition, thus throughout the body the working power of *dosa, dhatu* and *malas* get reduced. And hence *balabhramsa* is produced.

(3) *Gaurava:* *Ama* causes heaviness in whole body and/or different parts of body. When *ama* accumulates at different sites this heaviness is felt.

(4) *Anilmudhata:* *Ama* causes *srotorodha* in srotasas and hence there is obstruction in normal flowing through lumen. Similarly here due to *srotorodha* free flow of vayu becomes obstructed and that condition is termed as *anila mudhta*.

(5) *Alasya:* This is due to psychological effect produced by presnece of *ama* alongwith its effect of *guruta* etc. Patient suffering from *ama* gets disturbed psychologically and becomes unable to perform his normal body activities, which is known as *alasya*.

(6) *Apakti:* It is because the vicious circle, sets in due to production of *ama*. Due to *agnimandya ama* is produced. Now this *ama* again causes *agnimandya* and hence this *apakti* symptom is seen. It also indicates towards metabolic impairements taking place due to effect of *ama* at microlevel.

(7) *Nisthiva:* When food is not digested properly a reflex is set which increases salivary secretions and results in frequent spitting.

(8) *Malasanga:* It is again due to *srotorodha* caused at *mahasrotas* level. Also due to properties of *picchilata, snigdhata* and *guruta mala* produced after action of *jatharagni*, sticks to the walls of intestines and is difficult to be expelled out. At microlevels also the procedure is same. Due to *srotorodha* and stiking nature of *sama mala, malasanga* takes place.

(9) *Aruci:* This shows the effect of *sama* over psyche. Due to improper digestion etc. patient have loss of desire for taking food.
(10) **Klama:** In this state patient feels exhausted without doing work. Again this is due to damage caused in entire body by circulating *ama*. These are main symptoms produced due to presence of *ama* in body at various levels. Association of these symptoms along with sign and symptoms of disease help in diagnosing a disease as *sama* or *nirama*, on which treatment of a disease depends.

**Management of Ama**

From earlier discussion it becomes quite clear that *ama* is an important factor in production of different diseases. It is very important to take *ama* in consideration while treating the diseases. If a disease is produced from *ama*, then first step of treatment should always be the management of *ama* which is the root cause of that disease. Certain principles of treatment of *ama* are given in different classics. On the basis of these principles a definite line of treatment can be decided for management of *ama*. These are given below:

Means *ama* should be treated with *langhana*, *kosnapeya*, *laghu* and *ruksa anna*, *tikta rasa niruhabasti*, *swedana*, *pacana* and through other *samsodhana* processes (from upper and lower passages). In *ajirna*, *ama* should be treated by *langhana* and then by *pacana*, then *yavagu* and other foods should be given as *sansarjankrama*. While describing *ama* Acarya Vagbhatta has also described its treatment viz *ama* should be treated by *pacana*, *dipana*, *snehana*, *swedana* and *sodhana* as per the situation and with appropriate measures.

In the chapter of *amavata* Acarya Bhavprakash has also described the principles of treatment of *ama* which are, *langhana*, *swedana*, *tikta*, *katu rasa prayoga*, *dipana*, *virecana*, *snehana* and lastly the *vasti cikitsa*. So, on the basis of above mentioned *sutras* the line of treatment of *ama* should be as following, *langhana* should be done at the first level. This should be followed by *dipana* and *pacana*, which should preceed *snehana*, *swedana*. *Panckarma* followed by *sansarjana krama* should be finally resorted to. These steps should be adopted one after the other, depending upon the severity of the condition. Let us now consider each of these step separately.

(1) **Langhana:** Acarya Caraka has described *langhana* as i.e. what ever things or processes which produce lightness in the body are termed as *langhana*. The first line of treatment of *ama* i.e. *langhana* gives sufficient time to the existing *agni* in the body, to adequately complete the entire process of digestion of whatever residual amount of *ama* or food is left. Thus this treatment basically involves a process of
loadshedding in which new food is not introduced. So the agni is not overloaded. Thus unhampered agni gets enough time to digest by acting over what ever is left.

Types of Langhana: Various types of langhana are described in texts which maybe summed as upavasa, vyayama, exposure to maruta and atapa, pacana and various sodhanas. Any of these types can be used for langhana karma depending upon the severity and site of ama.

(2) Dipana and Pacana: After langhana when slight lightness is achieved in the body, remaining ama should be treated with dipana and pacana dravyas. Dipana and pacana are described as:

Pacana: Those dravyas which help in the digestion of ama but do not influence agni are termed as pacana. The use of pacana dravya helps in the digestion of already formed ama which is present and continuously causing its harmful effects on agni.

Dipana: Those dravyas which do not help in digestion of ama but increase the digestive power of agni are termed as dipana. So the use of dipana dravya is done to increase the status of agni, which is vitiated by nidanas and causing ama production. With the help of above three procedures the following objectives may be achieved:
(a) Load Shedding: by upavasa, pipasa etc. langhana karmas.
(b) Digestion of already formed ama - by pacana dravyas
(c) Improvement in the status of agni - by dipana dravyas.

For above processes different Acaryas have described use of kosnapeya, laghu and ruksa anna, use of tikta and katu rasas. Next after these processes comes the Sodhana treatment, which is used in severe conditions of ama.

(3) Snehana and Swedana: Next step is snehana and swedana which is done as purvakarma for sansodhana. With the help of snehana and swedana dosas are brought into the kostha from where they can be expelled out easily.

(4) Dosavsecana: With the help of pancakarma, (samsodhana) dosas are to be expelled out. All of the pancakarmas or any part of pancakarma can be used, depending upon severity and site of ama. These are the basic steps which are used to treat ama. The use of steps depends upon the patient and severity of the condition, as stated by Acarya Caraka in three stages of aptarpana viz. (i) langhana (ii) langhana and Pacana (iii) Dosavsecana. In mild conditions of ama only langhana is required whereas in little more severe condition langhana along
with pacana should be used. In very severe condition with above two procedures dosavsecan i.e. sansodhana should also be used. So on the above described general principle, ama can be treated successfully.

Corelation Between Ama And Redical Theory
Free radical is an atom/molecule that contains one or more unpaired electron, which requires neutralisation by free radical scavengers. Thus it exists in an incomplete metabolic state which is also the state of ama described as avipakvam (incompletely digested/metabolised).

Next it is seen that when produced, free radicals are in assimilable to body components and exist in free state. Similar is the case with ama when it is produced it remains in inassimilable state and hence termed asamyuktam. Free radicals cause damage to cell membrane and thus the cell is destroyed. This destruction may lead to putrification and foul smell generations which is similar to one of the property of ama described as durgandham. Though ama remains in the body as asamyuktam, but due to its properties, like bahupicchilam etc. it sticks to normal healthy body tissues very quickly. Similar is the case with free radicals. To seek stability in their structure they quickly attack the healthy molecules of the body and thus setting a chain reaction. The cells throughout body are continously exposed to these damaging molecules. Same has been described for ama as sadanamsarvagatranam.

From above one can observe that properties of free radicals are similar to the properties of ama described in classics. Now the process of production of free radicals in body and production of ama would be considered. Free radicals are said to be produced in the body in abundance when equilibrium between its generation and body's primary defence is disturbed. The primary defence of the body includes the activity of certain enzymes like superoxide dismutase, catalase and glutathione peroxidase. The impairment of these enzymes can lead to production of free radicals. Similarly ama is also being produced whenever there is malfunction of agni in the body. Many modern Ayurvedic scientists consider the action of various enzymes as the action of agni. Therefore it may be concluded that impairement of agni at cellular level causes the generation of free radicals.

DISCUSSION
The Ama thus formed manifests it self either locally (in the G.I.T.) or systemically by obstructing the macro and microchannels. The disease thus produced, clinically manifests itself in form of various signs and symptoms. These signs and symptoms are the principle
tools used by a physician to diagnose the disease and treat it promptly. Therefore a threefold or sixfold examination should be meticulously employed in the examination of the patient for reaching at the correct diagnosis. *Ama* and various diseases produced by it may be identified / diagnosed by looking for a number of objective and subjective symptoms, which have been described in various *Ayurvedic* classics.

**CONCLUSION**

Aam is one of the important concept in *Ayurved Samhita*. *Ayurveda* attributes cause of any disease to an imbalance in one or all of the *Dosh* and for successful treatment of a particular disease *Vaidya* has to determine, weather the imbalanced *Dosh is Saam or Niram*. If *Vaidya* can understand this stage well and give its drug as per *Avashta* then it will be give good result.

The theory of free radicals which has been proven in recent years considers these free radicals (unstable reactive radicals) as the main cause of many diseases and degenerative changes produced in the human body. These free radicals may damage any cellular content and also destroy the genetic machinery of the cell. They produce destruction of the cellular membrane which results in loss in the organisation of cellular enzymes, a disturbance in the distribution of nutrients and dysfunction of cellular metabolism. The sequence of events eventually leads to various disease processes. After a minute speculation into the concept of free radicals and *ama*, there certainly appears to be similarity between the two.

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