

AMA AND ITS EFFECTS ON BODY-A REVIEW

Dr. Shraddha^{1*}, Dr. Nikhila Ranjan Nayak² and Dr. Aradhna Kande³¹P. G. Scholar, ²Professor & H. O. D., ³Lecturer

Dept. of Roga Nidan evum Vikriti Vigyan Shri NPA Govt. Ayurved College, Raipur (C.G.).

*Corresponding Author: Dr. Shraddha

P. G. Scholar, Dept. of Roga Nidan evum Vikriti Vigyan Shri NPA Govt. Ayurved College, Raipur (C.G.).

Article Received on 06/02/2020

Article Revised on 27/02/2020

Article Accepted on 19/03/2020

ABSTRACT

Ayurveda has its own concepts about *agni* and *ama*. Life, health, acitveness, growth, brightness and immunity all depend upon *dehagni*. If *dehagni* is extinguished, everything is lost including life. Hence *agni* is the basis of life. *Jatharagni* is the source of remaining all *agnis* including *bhutagni* and *dhatwagni*. It not only maintains digestion and metabolic activities, it also maintains body temperature in such a manner so that all enzymatic actions and reactions occur normally. *Jatharagni* is the source of thermo genesis. All hormones are chemical in nature similar to *agni*. *Agni* functions are delivered by hormones with highly specialized mechanisms in the target tissue to exert powerful control over the physiological systems without which there is no life. The Concept of *ama* and free radical theory has various similarities. Free radicals are unstable chemicals formed in the body during normal metabolism or exposure to environmental toxins such as air, food and water pollutants. *Ama* is also said to be produced from *vishaja dravyas*.

KEYWORDS: *Agni*, *Jatharagni*, *Ama*, Free radical.

INTRODUCTION

The concept of the *ama* is the most important fundamental principle of *Ayurveda* in understanding the physiopathology of the disease. *Aamvichar* has its own importance in *Nidan* and *Chikitsa* of disease. The choice of *kalpa* changes according to *sama* and *nirama avastha*. All diseases are originated from *Amadosha*, vitiation of *agni* i.e. malfunction of *agni* produces *Ama*, it means indigested food particle.

Definition of ama- In *Ayurvedic* texts, *Ama* is defined as

1. "Aharasya rasah sesho yo na pakwo agnilaghavat" Due to hypo functioning of *agni* proper digestion of food doesn't takes place leading to formation of *ama*, which is responsible for the manifestation of almost all diseases.^[1]
2. Impaired digestion and metabolism due to hypo functioning of *jatharagni* is called *ama* and it exacerbates all the *dosas*.^[2]
3. The first *dhatu* i.e the *rasa* of chyle (not *rasadhātu*), which is not formed properly due to hypo functioning of *Ushma (agni)*, being retained in *amasaya* and undergoing fermentation or putrefaction (*dushti*). It is this state of *rasa*, which is spoken of as *ama*.^[3]
4. *Ama* refers to events that follow and factors which arise, as a consequence of the impaired functioning of the *kayagni*, which is nothing but impaired metabolism^[4]
5. *Sarangadhara* says the *samyak pakwa ahararasa* is called as "*Rasa*" and the *apakwa ahararasa* as "*Ama*".^[5]

Vijayarakṣita has cited a number of definitions and descriptions of *amadosa*.

- 1) "The *ahara* which is not properly digested and stagnated, then the outcome of such digestion is known as *Ama*".^[6]
- 2) "The *annarasa* which is not properly formed in *amasaya* due to impairment of *kayagni* is known as *Ama*".^[7]
- 3) "The indigested *annarasa* possessing foul odor with high viscosity causing *gatra saithilyata* is known as *Ama*".^[8]
- 4) "Imperfectly digested intestinal contents are known as *Ama*".^[9]
- 5) "Residual *ahara rasa* after absorption at the end of the digestive process in *amasaya* is known as *rasaseshi* which is also called as *Ama*".^[10]

On observation of all the above definitions, one can state that "*Ama* is a stage are condition of a substance resulted in the process of *paka* on subjecting to the *agni*, before attaining its final transformation". Final transformation means the ingested material to be transformed either to yield energy in the body (for *dhatu vyapara*) or for synthesis of new tissue (*dhatu nirmana*) and final elimination as end products.

Production of Ama at various levels- It manifests due to

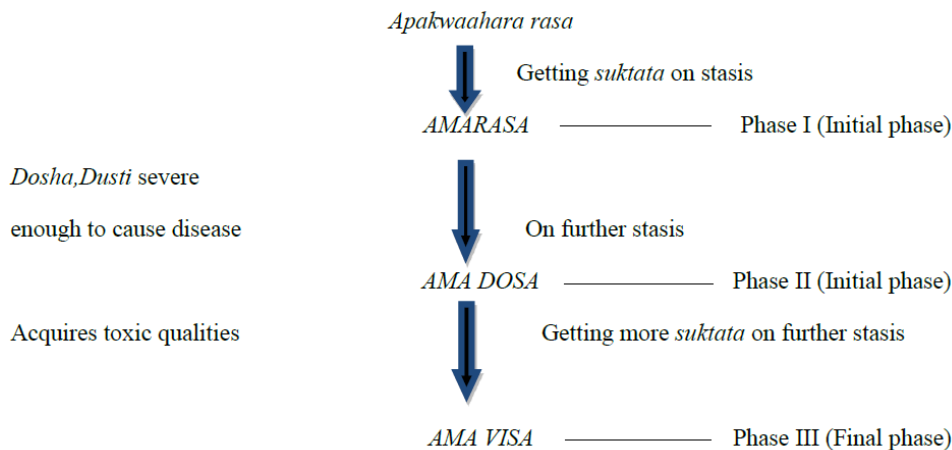
1. *Jatharagni Mardavata*- Sluggish impaired functions of *Jatharagni*.
2. *Dhatvagni Daurbalya*- Altered functions of *dhatvagni*.
3. *Bhutagni Mandyata*- Defects in the functions of *bhutagni*.

Biophysical Properties of Ama- Liquid, heavy (high molecular weight), attain different colors, etiological factor for almost all diseases, viscid, sticky nature, manifests various kinds of pain, yields foul smell, increased sourness, excess in quantity, thick, increased turbidity, obstruct various pathways etc.^[11]

Qualities of Ama- The *ama* may originate at various levels in different structures it possesses certain inherent qualities or *gunas* i.e "*Pratyatmaka gunas*" as follows: 1. *Drava*, 2. *Guru*, 3. *Snigdha*, 4. *Piscilata*, 5. *Tantum*, 6. *Avipakwam*, 7. *Asamyuktam*, 8. *Durgandham*, 9. *Abhisyandi*, 10. *Srotoavarodha*, 11. *Katu*, *amla rasas*, 12. *suktata*. All the above qualities are physio-chemical properties of *ama* arising in *pakavastha*.^[12]

Types of Amapradosaj vikar- Mainly two types of *amapradosa* manifests namely *visucika* and *alasaka*.^[13]

Flow chart-1



Formation of Ama Rasa, Amadosa, Amavisa in course of time

Ama Nidana (Etiological factors) - *Ama* is the pathogen resulting due to disturbance of *agni*, any factor which disturbs the *agni* directly or indirectly is the cause for the production of *ama*. Out of three pathological conditions of *agni*, except *teekshnagni* remaining two i.e *mandagni* and *visamagni* are the prime cause of *ama*. Hence all the causes of *mandagni* are the causative factors for production of *ama*.

The etiological factors of *amotpatti* described in various texts are summarised and classified as follows: All factors basically can be classified into two types 1. Direct 2. Indirect.

Aam, *Ama dosha* and *Ama visha*- *Apakwa ahara rasa* is different from *amarasa*, which makes the difference between *ajirna* and *ama* conditions. The *apakwa ahara rasa* which is situated in *amasaya* gets *suktatwa* after passage of some time, that *suktabhava* of *apakwa ahara rasa* is called *ama*. During further course of time the *ama* interacts with *dosas* and become pathogenic which is known as *amadosa*.^[14] This *amadosa* on further stasis, gets more *suktatwa* there by attains & acquires '*visha*' qualities, this toxic condition is known as *amavisha*.^[15] *Aacharya Charak* says "The undigested food which resulted due to various causes of *mandagni*, attain *suktatwa* (fermentation) leading to set of toxic states called as *amavisha*".^[16] *Acharya kashyap* also says due to the consumption of *nidana* aggravated *dosas* causes mildness of *agni*, after this whatever is again eaten or drunk by ignorant person, becomes improperly digested, this transformed into sourness in *amasaya* is called *amavisa*.^[17]

In the mode of causing disorders, clinical features and principles of treatment are also distinctly different for each condition. Hence *Ama*, *Amadosa*, *Amavisha* terms are distinct, indicating the actual state of *ama*.

Primary are those which are having direct influence on *agni* leading to *mandagni* there by *amotpatti*. Secondary are the cause which triggers the *dosas* first, there by affecting the *agni* leading to *agni mandyata* leads to *amotpatti*. Similarly the factors which play role in manifestation of certain disorders are considered to be causes of *amotpatti*.

I. Direct causes: These are the causes having direct influence on *Agni* to diminish its functions.

1. a) Dietetic indiscretions-^[18] 1. *Anasana* 2. *Adhyasana* 3. *Ajirnakarak ahara* 4. *Virudh ahara* 5. *Asatmya ahara sevana* 6. *Guru ahara sevana* 7. *Shitala ahara sevana* 8. Excessive dry, dehydrated food 9. Putrid food intake 10. *Apriya padartha sevana* 11. *Vistabdha ahara sevana* 12.

Vidagdha ahara sevana 13. Apakwa ahara 14. Adhika jalayukta ahara sevana 15. Visham asana 16. Dried fish 17. Certain varieties of fish 18. Heavy meats like beef, sheep and pork etc diet saturated with tubors, *pista padarthas*, creams, viscid substances 20. *Atimadhura*, *amla rasa sevana*.

b) Dietetic incompatibilities-^[19] 1. *Desa* 2. *Kala* 3. *Agni* 4. *Matra* 5. *Satmya* 6. *Vatadi dosas* 7. *Samskara* 8. *Virya* 9. *Kostha* 10. *Avastha* 11. *Krama* 12. *Parihara* 13. *Upacara* 14. *Paka* 15. *Sanyoga* 16 *Hrad* 17. *Sampada* 18. *Vidhi virudhani*.

2. Adverse effects of *sodhana* therapies:^[20]

3. *Vega sandharana*:^[21]

4. *Viruddha chesta*:^[22] 1. *Ajirne vyayama* 2. *Ajirne vyavaya* 3. *Ajirne jalapratarana* 4. Exercise immediately after *snigdha ahara sevana*

5. *Niscalatwa* or *avyayama* (secondary habits)

6. Unhygienic conditions and not following *ahara vidhi vishesa ayatanas*.

7. *Manasika vikara*: Mental tensions and emotional instabilities i.e *kama*, *krodha* etc.

8. *Kapha*, *Pitta vardhaka ahara vihara sevana*.

II. Indirect Causes

1. Any disorders leading to *agni mandyata* at various levels of *agni*.

2. Any disorders leading to emaciation.

3. All *kaphaja vikaras*.

4. All *pittaja vikaras*.

5. All the causes which triggers the *dosas* first, there by leading to *agni mandyata* and *amotpatti*.

Prodromal features of Ama- Prodromal symptoms of *ama* are stiffness, anorexia, excessive sleep, excessive pallor, dullness, continuous aversion from play, food, sleep and wet nurse; has appearance of bathed when unbathed and vice versa.^[23]

Ama and their Classification- When *ama* mixes with *dosa*, *dhatu*, *mala* (*dhatu mala* and *sarira mala*) develops certain complex adverse reactions, which is the basis for the manifestation of diseases. *Ama* and *sama* are the main two classification.

General symptoms of Ama- Abnormal *dosa* present in *grahani* manifest improperly digested food resulting salivations, constipation, pain, burning sensation, anorexia and heaviness as symptoms of *ama*.^[24] Obstruction in *srotas*, diminution of strength, heaviness, disturbance in the normal movements of *vata*, drowsiness, indigestion, excessive secretions from oral cavity, obstruction of urine and stool, lack of desire towards food, exhaustion also occur.^[25]

General symptoms of Nirama- Symptoms opposite to *ama* are the *nirama laksanas* like no obstruction in channels, regaining strength, lightness, *vata* moves freely in its own path, active, proper digestion, no excessive secretions from oral cavity, no obstruction for urine, stool, flatus; desire to take food, free from exhaustion.^[26]

Effects of Ama gunas on the tissue^[27]- *Dravadi gunas* of *ama* either of all or few of them may trigger the *dosas* leading to manifestation of a disease. On formation of *ama* according to *gunas* involved in production of *ama*, *tulya gunas* dominate in the formed *ama* under concept of *swayonivardhaka gunas*, hence predominant *gunas* in the formed *ama* varies and affects the *tulya gunas* in *dosa*, *dhatu*, *malas* and the surrounding tissue. Hence there are varied manifestations of *samarogas*, since it may trigger in multiple directions.

- When *drava guna* is more, it draws more fluid from the surrounding tissues or it may give off hydrophilic effect in the cells there by increasing *drava dhatus* like *kapha*, *pitta*, *rasa* etc. This disturbs homeostasis in the local tissues as well as in the system leading to pathogenic condition.
- *Guru gunadhikyata* hampers the movement of intracellular and extracellular particles and cellular permeability. *Guru guna* chiefly affects *guru dravyas* specially *kapha* and *kapha sthanasth mamsa*, *meda*, *asthi*, *majja*, *shukra dhatus* and *malas* by adding more of its element.
- *Pischila*, *tantu*, *abhisyandi gunas* hamper the viscosity of fluids, thereby controlling the secretions and arresting the movement of mucosal cilia or intestinal tract. The movement of food, *dosas*, *dhatu* and *malas* get obstructed since the secretions and movements are inhibited by *vata* due to *srotoavarodha / avrta* by the *pischiladi gunas* and later affect the *kostha* leading to *kostha stabdhata* or *stabdhata* in the tissue involved.
- *Avipakwam* is the result of *mandagni* where it is unable to transform (*paka*) the given substances into its final product. The substance that is not attained final product will not be able to mix-up or is not transferable to the next form; hence it is called '*asamyuktam*'. *Asamyuktam* means not able to mix-up with the surrounding tissue, hence it becomes alien substance to the tissue thereby triggering the *vatadi dosas*.
- Due to the existence of *guru*, *pischila*, *tantu*, *abhisyandhi*, *avipakwa*, *asamyukta gunas* final outcome is *sroto avarodha* where stasis resulting into *durgandha* and vitiating varied corresponding element in the body causing several disorders.

CONCLUSION

The *ama* is responsible for the production of various diseases. Similarly free radicals have also been implicated as a root cause of diseases. Most of the diseases occur due to *ama* or *avarana* of *ama*. In the treatment of diseases caused by *avarana* of *ama*, it is necessary to treat *ama* first. Like free radicals *ama* also affects the tissue and disturbed the normal function and structure of tissues and causes many pathogenic conditions.

REFERENCES

1. Vijayrakshita Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 460.
2. Hemadri: Charak samhita, chikitsa sthan, chapter 15, sloka 44.
3. Vagbhata: Astanga Hrdaya, Sutra sthana, 13th chapter, sloka 25, Chowkamba Orientalia, Varanasi, 9th edition, 216.
4. Vagbhata: Astanga Hrdaya, Sutra sthana, 13th chapter, sloka 25, Chowkamba Orientalia, Varanasi, 9th edition, 216.
5. Sarangdhara: Sarangadharasamhita, purva khand 6th chapter, sloka 4, Baidyanath Ayurvedic Ltd. Nagpur, 1974. 2nd edition, 115.
6. Ishwarasena(10).
7. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 460.
8. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 460.
9. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 460.
10. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 460.
11. Sarvangasundara: Astang Hrdaya, Sutra sthan, chapter 13, sloka-26.
12. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 461.
13. Charak samhita, viman sthan, chapter 2, sloka 10.
14. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 461.
15. Vagbhata: Astanga Hrdaya, Sutra sthana, 8th chapter, sloka 4, Chowkamba Orientalia, Varanasi, 9th edition, 148.
16. Caraka: Caraka samhita, Cikitsa sthana 15th chapter, Sloka 44, Nirnaya sagar press, Bombay, 517.
17. Kashyap samhita, Khil sthan, Chapter- 16, sloka 7-9
18. Caraka: Caraka samhita, Sutra sthana 26th chapter, Nirnaya sagar press, Bombay, 150-51.
19. Ibid, 152.
20. Caraka: Caraka samhita, Cikitsa sthana 15th chapter, Sloka 42-43, Nirnaya sagar press, Bombay, 517.
21. Caraka: Caraka samhita, Sidhi sthana 11th chapter, sloka 28-30, Nirnaya sagar press, Bombay, 729.
22. Vijayrakshita: Madhukosa commentary on sloka 1 to 5, Amavatanidana Madhavanidana edited by Madhavakara, Chowkamba Orientalia, Varanasi, 461.
23. Kashyap samhita, Sutra sthan, Chapter- 25, sloka 32-33.
24. Charak samhita, chikitsa sthan, chapter 15, sloka 73-74.
25. Astanga Hrdaya, Sutra sthana, 13th chapter, sloka 23-24, Chowkamba Orientalia, Varanasi, 9th edition, 216.
26. Astanga Hrdaya, Sutra sthana, 13th chapter, sloka 23-24, Chowkamba Orientalia, Varanasi, 9th edition, 216.
27. Concept of ama in ayurveda, by-Prof. Dr. M. Srinivasulu, 5th Chapter Sama and Nirama Aspects of diseases, Revised and Enlarged Edition, Chowkhamba Sanskrit Series office, Varanasi, 66.