

ROLE OF AMA IN THE PATHOGENESIS & MANAGEMENT OF DISEASES: A REVIEW

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ABSTRACT

Ayurveda has its own nosological system but not similar to conventional biomedical sciences. Ayurveda does not emphasize on naming of the disease but it laid down wider aspects of pathogenesis of diseases. In Ayurveda equilibrium state of Dosha, Dhatu, Mala and Agni along with pleasant state of mind, spirit and senses; are considered as healthy state of an individual. The Tridosha construct the body and serve to maintain it in a dynamic state of health. However, when these vital forces are aggravated due to improper gross or subtle factors, the body-mind connection begins to suffer and the disease process begins. Disease is a description in the process of condition in which body metabolism interrupt and unable to perform natural tissue (Dhatu) transformation due to impaired functioning different sets of

Agnis (bio-fire). The causative factors hampering the functioning of Tridosha, which directly or indirectly weaken the Agnis and it leads to the formation of Ama like reactive species in the system. It takes a long time to develop and accumulate in the body and initiate pathological event. It is the byproduct of metabolic impairment and it is an important factor for the pathogenesis of most of the disorders. The nutrient components of digested food generally are utilized (Sara bhaga) by the tissues and waste parts (Kitta bhaga) are throughout

the body. But Ama like products cannot be utilized or excreted and it remain in the body and vitiates the functional and structural integrity of body channels. This article summarizes basic concept of Ama and its role in pathogenesis, diagnosis and management of disease.

KEYWORDS: Ama, Agni, Tridosha, Dhatu, Mala, Anukta vyadhi, oxidants.

INTRODUCTION

The primary aim of Ayurveda science is to maintain health status of healthy person and management of disease of patient with help of specific principles of Ayurveda.^[1] Ayurveda is an organized system, assessing any disease with the help of specific principles and concepts of pathogenesis of disease along with it also advocates to breaks the pathological events of disease. As per Ayurveda, disease occurs due to disturbance in Dosh-Dhatu-Mala and Agni samyta.^[2] Ama is one of the factors, which can initiate and provoke the disease pathogenesis. It is produced of fault of different sets of Agni with and without the influence of vitiated Tridosha. In Ayurveda concept of Ama and Agni are very specific. If Agni becomes weak or impaired, it leads to production of Ama and less production of nutrients. It has capacity to blocks the micro-channels and initiate autoreactive phenomenon in the body.

Concept of Ama:- The term Ama means undigested food. It is an improperly metabolized substance in the process of digestion and tissue metabolism due to disturbed functioning of Agni.^[3] It has been defined in many ways.

- Ama is the byproduct of impaired digestion at the level of GIT.
- Ama is the accumulation waste from gross to subtle level.
- Ama is the first expression of bio- humors to vitiate.

Ama formation takes place at different levels in the body due to deranged functioning following sets of Agnis.

- Jatharagnimandya- impaired functioning of GI bio-fire.
- Dhatvagnimandya - improper functioning of tissue bio-fire.
- Bhutagnimandya – defect in the functioning of tissue bio-fire and liver.^[4]

It affects the different Srotas of the body which leads to various disorders like auto-immune disorders, nutrient deficiency disorders, metabolic disorders etc.

Ama can be understood as a brake in the transformative process at any level in the body. This leads to accumulation of metabolic byproduct which cannot be distinguished as Sara or Kitta

by the body. When this cannot be neutralized or eliminated by the body may result in producing conditions such as autoimmune diseases.^[5] Diseases are manifested through the agency of Rasadhatu, which is the expression of Ama during the process of pathogenesis.

Agni is controlled by Dosha. Due to that, Ama always comes with a Doshika signature reflecting the dosha which has disturbed the Agni. This Dosha-samkalpana is a key to understand the clinical diagnosis.

This Ama through the Rasadhatu has to reach a defective site to create the Dosha-Dushya-Sammurchhana (specific interaction of bio-humors with the Ama) where the importance of Sthana-Sanshrya (state of localization) comes.^[6] Sthana here means the locus of Dosha-dushya sammurchchhana. It may be one of the roga-marga viz. koshta, shakha, marma, dhatu, srotas. This decision helps in localizing the disease. Here from Sthana we can take all the organs or organ system related with that entity of particular disease. This concept would be helpful in deciding the diagnosis and selection of drug, which work more specifically to that organ or organ system.

Ama can be classified on the following basis in order to being assessed quantitatively and qualitatively to reach a decision point objectively.

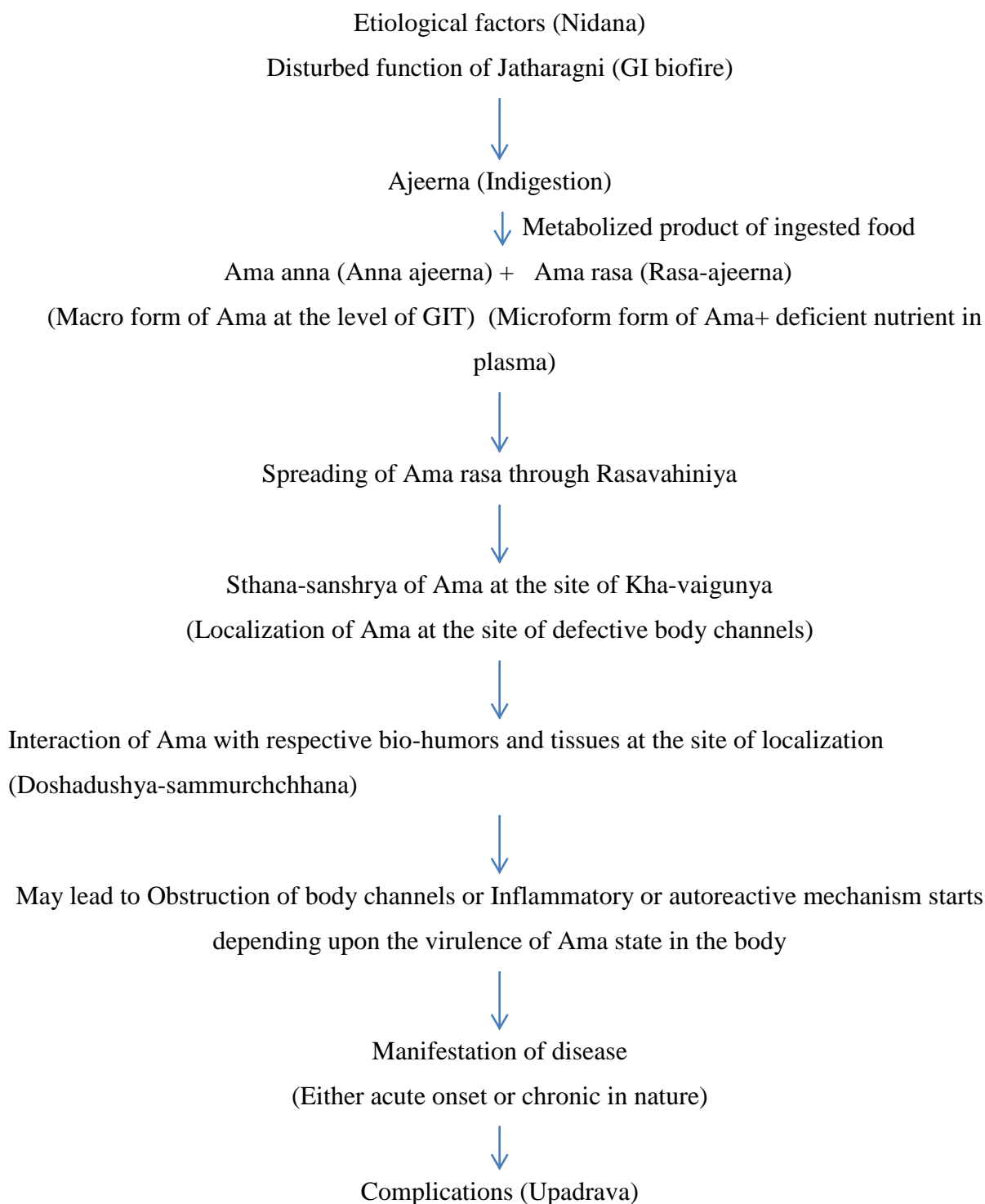
- Based on the Bala of Ama dosha: Alpa, Madhyama, Bahu. This helps in deciding whether Shodhana is needed or not; as we all know that shodhana is advocated in bahu-dosha condition, langhana-pachana in madhyama dosh and langhana in alpa dosh usually.^[7]
- Based on the location: If Ama is situated in Pakvashaya, Pachana-virechana is advocated. When it is situated in whole body, langhana-pachana is advocated.^[8]
- Based on the signature of Dosha - Ama, Vidagdha, Vishtabdha. This brings rationality of choosing the more specific drug at different state.^[9]

Causative factors

- 1) Aharaja nidana: Abhojana, Atibhojana, Adhyashana, Vishamashana and Viruddhashana etc. No consumption, consumption of food substance in the excess along with not following the rules and regulation of dietetic.^{[10] [11]}
- 2) Viharaja nidana: Viruddh-cheshta, Nishchalatva, Diwaswapa, Ratrijagarana, Vegadharana, Ativyayama, Avyavaya, Divashayana, avyayama, Visham-shayya etc. It creates Dosh-vaishmya, which produces Agni-dushti and ultimately produces Amotpatti.^{[10] [11]}

- 3) Mansika nidana- Acharya Charaka said that intake of wholesome food in proper quantity do not get properly digested when the individuals is afflicted with grief, fear, anger, sorrows, excessive sleep and excessive vigil etc.^[11]

Pathogenetic Effect of Ama



Manifestations of certain reactions are inside the body takes place due to vitiated form of Ama. It depends upon time and extent of the contact with abnormal Dosha-Dhatu-Mala in the body, that may lead to manifestation of various kind of diseases.

General symptoms of Ama

- 1) Srotorodha- It means obstruction. It may involve a single Srotas or whole body. It blocks the route of flow of Dosh, Dhatu and Mala. It sticks in the Srotas and produces symptoms in the body accordingly. At the tissue level, there will be no free flow conduction or transport of nutrients in the cell and resulting in suppression of enzymes, receptors etc. So the transportation of nutrients becomes hampered.
- 2) Balabhransa- It means diminution of strength. It may be visualized at the level *daihika* or *vyadhikshamatva* due to lack of nutrients along with dhatu transformation process gets interrupted and it decreases the strength and immunity.
- 3) Gaurava- It means heaviness in the body. One feels lethargic and inactive. It may be due to the excessive collection of unmetabolised products (Ama).
- 4) Anila mudhta- It means disturbance in the normal movement of Vata dosha.
- 5) Alasya- It means drowsiness, lack of enthusiasm to do work in spite of having energy.
- 6) Apakti- It means indigestion. Due to diminished function of Agni, food cannot digest properly. This Ama reduces again the strength of Agni in vicious manner.
- 7) Nishthitva- It means excessive secretion from oral cavity.
- 8) Malasanga- It means obstruction of waste products. It may cause abnormal accumulation of waste products from gross to subtle level. This may be resulting in toxemia.
- 9) Aruchi- It means lack of desire towards food. It may be due to the less secretion of digestive enzymes and obstruction in body.^[12]

Clinical significance of Ama

1. According to Maharshi Charak, First Sama and Niram condition should be examined and then treatment should do.
2. Different treatment principles are advised on the basis of Sama and Nirama state. In Samavastha-Apatarpan is the main treatment whereas in Niramavastha-Santarpan is advised.
3. Samavastha is first treated with Langhana and Pachan. Sodhana should not be done at once due to spreading of Dosa all over the body (in cellular level, *Lina Dosa*). By

Panchanakarma first it is made to Pakva stage and latter Shodhan can be applied. In Niramavastha Langhan should not be advised, here Sodhana can be applied.

4. The knowledge of Sama and Nirama is necessary to avoid all kinds of Vyapadas while treating the patient.
5. After all it is said that if the medicine used in a Nirama stage works like Amrata.^[13]

Ama strength grading scale

It is developed by Dr. Ajai Kumar Pandey and Vikas Rae in 2014.^[14]

Sign/Symptom	Asking the question to the patient	Grading scale on VAS
1. <i>Balabhransa</i>	Do you feel diminished physical and mental strength	0 to 10
2. <i>Gaurava</i>	Do you feel heaviness in the body	0 to 10
3. <i>Anila-mudhata</i>	Do you feel decrease/ restricted body movement	0 to 10
4. <i>Alasya</i>	Do you feel lethargy up to hour/day	0 to 10
5. <i>Apakti</i>	Do you feel difficulty in digestion of food	0 to 10
6. <i>Nishthivana</i>	Do you feel excessive salivation and spitting	0 to 10
7. <i>Malasanga</i>	Do you feel constipation/ Altered bowel habit/ Incomplete bowel evacuation	0 to 10
8. <i>Aruchi</i>	Do you feel decrease desire of intake of food	0 to 10
9. <i>Klam</i>	Do you feel exhausted without doing any work in day time	0 to 10
10. <i>Sirsoruka</i>	Do you feel headache in day time	0 to 10
11. <i>Prishthakatigraha</i>	Do you feel backache/ low backache	0 to 10
12. <i>Jrmbha</i>	Do you feel excessive yawning after normal sleep	0 to 10
13. <i>Trsna</i>	Do you feel excessive thirst	0 to 10
14. <i>Jvara</i>	Do you feel increase body temperature	0 to 10
15. <i>Chhardi</i>	Do you nausea feeling	0 to 10
16. <i>Pravahana</i>	Do you feel spasmodic abdominal pain at the time of defecation	0 to 10

Gradation for Ama state

- (1) 0 - point – No Ama strength
- (2) 1 – 40 point – Minimal Ama strength
- (3) 41 – 80 point – Mild Ama strength
- (4) 81 – 120 point – Moderate Ama strength
- (5) 121 – 160 point – Severe Ama strength

Management approach

The line of treatment of Ama starts with proper examination of patient. According to Acharya Charaka, Sama-Nirama condition should be examined first. Distinction between Sama and Niram disease is of prime importance to define treatment strategies.

Then one should have to assess the condition that how much Ama is present, what is the quality of that Ama, doshika nature of Ama and finally know where that situating is. This whole exercise would finally lead to selection of proper drug & procedure.

- If Ama is alpa, leena & situated in Dhatus then the disease will be silent and can be deal with periodic fasting (langhana) measures only.
- Contrasting to the above mentioned condition if Ama is bahu, chala & situated in koshttha then disease may be expressing itself in acute or chronic form, requiring properly planned Pachana-snehana poorva shodhana.
- If Ama is in leena-aleena avastha & its locus is in interchanging between dhatus & srotas then the disease may show an episodic or remitting - relapsing nature, which may require acute treatment in its Vegavastha, whereas in Avegavastha pachana-shamana-shodhana can be given.
- Concept of Sadyah shodhana can be used in case of Bahu-aleena Ama, when it becomes chala and produces crisis.

Anshansh kalpana of dosha is required for the specificity of the drug and treatment in the terms of their Rasa-guna-virya-vipaka & dosha passifying effect.

CONCLUSION

Now days, disease prevalence has increased worldwide due to sedentary life-style, lack of activity and wrong dietary habit. Ama is one of the most important pathogenic concepts in Ayurveda. Ama gets formed at the levels of Jathargni, Dhatvagni and Bhutagni and initiates many pathological events. It further deteriorates digestive and metabolic activities, blocks the Srotas, vitiates Dhatus and causes various diseases like acute or chronic inflammatory disorders, auto-immune disorders, metabolic disorders, nutritional deficiency disorders etc. Avoidance of Nidana and following of daily regimen, Yoga, Pathya-Apathya help to avoid prevalence of diseases. Ayurveda attributes specific principles for successful treatment of particular disease based on intensity and virulence of Ama in the body.

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