



CONCEPT OF AUTOIMMUNE HEPATITIS IN AYURVEDA PERSPECTIVE – A CONCEPTUAL STUDY

Ayurveda

Dr. Arti Jain* PG, Scholar, Department of Kayachikitsa*Corresponding Author

Dr. Rajesh Uikey Assistant professor, Department of Rog Nidan Evam Vikriti Vigyan

Dr. Naresh Jain Associate Professor, Department of Kayachikitsa

ABSTRACT

Autoimmune hepatitis is a chronic inflammatory disorder characterized by high levels of aminotransferase and auto antibodies, hypergammaglobulinemia and interface hepatitis. The etiology of AIH has not been completely elucidated, but immunogenetic background and environmental parameters may contribute to its development. Autoimmune hepatitis does not have a pathognomonic features, and its laboratory, serologic, and histologic manifestations are found in acute and chronic liver disease of diverse causes. Autoimmune Hepatitis can be compared to mandya Bhutangni in Yakrit. According to Ayurveda, Yakrit is the main site of Bhutangni and one of the sub types of pitta namely Ranjakapitta. This Bhutangni helps in the digestion process as well as Ranjakapitta imparts colour to the blood. According to Charkathe digestion of food by jatharangi results in the breakdown of food into 13 distinct physiochemical groups. Jatharangi ignites the Agni fraction present in each of 13 groups. This Bhutangni then converts the respective portion into assimilable form. If the function of Bhutangni is not proper, at this stage Ama would be produced is called Bhutangni Manda janya Ama. If Agni improperly processed during digestion and metabolism of food it disturbs the process leading formation of Ama. Which is responsible for the manifestation of almost all disease especially autoimmune hepatitis compared with Bhutangni giving a detailed literature overview of Bhutangni, Immunopathogenesis (Ama production) and diagnostic criteria.

KEYWORDS

Agni, Ama, Autoimmune hepatitis, Immunopathogenesis.

Introduction - Autoimmune hepatitis is a chronic inflammation that occurs when your body's immune system turns against liver cells. The exact cause is unclear but genetic and environmental factors in triggering the disease. AIH affects all races and all ages worldwide, regardless of all sex 1-4. As per concept of modern medical science autoimmune diseases are occurs due to unknown's etiology but in Ayurveda Acharyas stated that it is caused by AMA. The normal process of digestion that should take place in the body is as follows: All the food we eat should be fully digested. Half of it is absorbed in to the body as nutrients and the rest of it expelled out of the body as waste products 5. But sometimes due to external negative influences (e.g. stress, strain, adverse weather, inappropriate food and habits) and Mandagani are increase the production of Ama 6. In Ayurvedic classic has described an important factor of digestion and metabolism in our body as Agni 7. According to the functions and site of action, Agni has been divided into 13 types, i.e. one Jatharagni, 12 Bhutangni and seven Dhatvagni 8.

Jatharangi -

Jatharagni is mainly situated in the Jathara (in between stomach and duodenum) 9. Ashtang Hridaya also mentioned place of the Jatharagni that is Garhni (duodenum), because it withholds the food for a certain time inside the Amasaya (stomach) to facilitate digestion 10. Jatharagni digests the food materials that consist of the 12 basic elements and transforms it for utilization by the respective Dhatus paramanus (tissues). It is also responsible for separation of the food material into the essence portion (Prasad) and the waste products (kitta) in our body (As.Hi.Su.12/8) 11. In modern, Jatharagni is related with the digestion of food which is done in stomach and small intestines by the enzymatic process and peristaltic movements of the intestine.

Bhutangni

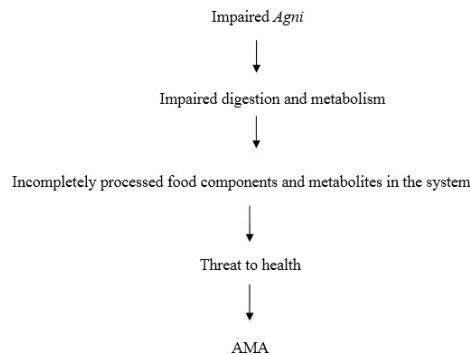
Acharya Charaka has mentioned that the 12 Bhutangni digest their own part of the element present in the food materials. Bhutangni acts on the cellular level of body. Each and every cell in our body is composed of the 12 mahabhutas. Naturally, dhatu paramanus (each cell) consists of these 12 Bhutangni also. These Bhutangni act after the Jatharagni on the food and causing their disintegration. All the nutrients in this world that we eat also consist of the same 12 basic elements with their respective Agni or bioenergies. Thus, they are completely similar with respect to the 12 basic elements with their Bhutangni in our body cells as well in the entire outside nutrient that we ingest for the nutrition of our body. After the digestion of food by the Bhutangni, digested materials containing the elements and qualities similar to each bhutas nourish their own specific bhautika elements of the body (Cha. Chi. 15/13, 14) 12. In the modern physiological perspective, the action of

Jatharagni can be equated with the digestion in the stomach and duodenum, and the action of the Bhutangni can be equated with the conversion of digested materials in the liver.

Dhatvagni -

Acharya Charaka has mentioned the fact seven dhatus that are a support of the body contain their own Agni, and by their own Agni they digest and transform the materials supplied to them to make the substances alike to them for assimilation and nourishment (Cha. Su. 28/15) 13.

Ama-



Ama means the substance which remains uncooked or improperly digested or not converted into the suitable material for the body 14.

Material and Methods – facts for this study was obtained out by literature search and critical review. The pathogenesis of autoimmune hepatitis was studied from modern medicine textbooks of various authors and by searching various online medical research databases like pub med, Google scholar and other national research data bases. The study of various Ayurvedic texts were made critically and an effort is made to understand the complete pathogenesis of autoimmune hepatitis in terms of Agni and Ama.

Mechanisms - The pathogenesis of autoimmune hepatitis follows the general hypothesis underlying many autoimmune diseases. The disease is thought to arise in a genetically predisposed individual when potential environmental antigenic trigger sets of a T-cell mediated immune response directed at liver antigens, leading to a progressive inflammatory process and scarring 15. According to Ayurvedic classic the ultimate change in the Ahararas that occurs at the end of the

digestion of jatharangipaka is called as vipaka¹⁶. The micro level digestion of this vipaka occurs by Bhutagni which is located in liver. In modern science the action of the Bhutagnipaka can be equated with enzymatic secretions of liver. The metabolism of food particles in liver has many enzymatic actions on the food digestion as metabolism of carbohydrates, proteins and fats which provide the energy for the biochemical functions of the body. Thus, the essential factors supplemented through food for the synthesis of this panchabhoutikasharira, it can be considered as Bhutagnivyapar. Bhutagni function starts immediately after absorption of digested food by mesenteric vein to portal circulation of the liver. So, the Bhutagni functions are carried in the portal system, liver and vascular system through which Ahara rasa is circulated in the body for nourishing the rasadisapta dhatus¹⁷. Hence liver is considered as centre of Bhutagnivyapara. Ama is a concept that can be understood as accumulated of unutilized, unmetabolized due to hypo functioning of digestive and metabolic enzymes. This untransformed food material accumulates in gastro-intestinal level, metabolic waste¹⁸. Ama is state of intermediately metabolism which is toxic in nature, hinders the absorption products of digestion, increase or decreases the peristalsis movement. Sometime due to external negative influences and improper of digestive juices by liver and pancreas, not all the food digested. In that half of it absorbed as nutrients and a half undigested, unmetabolized food product that circulates in the body as toxins. Ama lines the wall of the liver, impeding absorption and assimilation of nutrients. This toxic material Ama can view as a foreign toxic substance, from this body and the immune system can react and forming antibodies against the body, giving rise to antigen antibody complex and producing immune disorders. During the physiology there is accumulation of impurities and toxins from inside the body.

In modern parameters -

Ama is supposed to be free radicals. It's a molecule that contain unpaired electron, they are unstable chemical formed in the body during metabolism and cause degenerative changes and diseases.

Effect of free radical i.e. Ama -

Ama or free radical (Impure material) have tendency to create clogs the liver and other channels, at different level (i.e. micro and macro level) and undergoes many chemical changes which creates toxins. These toxins are absorbed in to the blood and enter the general circulation. They eventually accumulate in weaker parts of the body, where they create contraction, clogging, stagnation and weakness of respective system or tissue.

Discussion– Autoimmune hepatitis is not a common condition but it is an important condition to identify in view of its poor prognosis. Signs and symptoms of autoimmune hepatitis include weakness, weight loss, fever, abdominal pain, diarrhea, skin rashes, edema, and yellowing of skin or eyes. A number of women than men are affected by autoimmune hepatitis. These disorders may be caused due to genetic issues or due to mutations. It can be only managed with medicines. There are Allopathic medicines to keep the disease under control but they have been found to have side effects. According to Ayurveda, autoimmune disorders are a result of constant unhealthy lifestyle and diet. Ayurveda works at the root cause of the disease where it starts treating the malfunctioning immune system.

Toxin removal -Toxins or Ama in the body interfere with the proper functioning of the immune system, which often leads to autoimmune diseases. Some Ayurvedic medicine get starts working on removing the toxins from the body. Usually Pippali¹, Shunthi², Hingu³, Maricha⁴ Haritaki⁵ 19 (1-5) are used to detoxify the body.

Metabolism correction - Ayurvedic medicine is not only will detoxify the body, but it will also correct the metabolism which gets messed up when affected with an autoimmune disorder. Guggulu¹, Neem², Vasa³, Patolpatra⁴ Guduchi⁵, 20(1-5) and Ghrita²¹⁻²² are used to correct the metabolism.

Increase in ojus production - Lastly, Ayurvedic medicine works at correcting the immune system. If the immune system is not corrected, then the above treatment procedure will just be useless. Ghrita²¹⁻²², Bahera¹, Dadim², Ela³, Haritaki⁴ and Amalaki⁵ 23(1-5) are used generally to calm the immune system and rejuvenate it. They help correct the immune system for normal functioning.

Autoimmune hepatitis can be managed with Ayurvedic medicine but

one also needs to make lifestyle changes to keep body's immunity. Abstinence from alcohol, smoking, and spicy foods are beneficial and so is regular exercise and plenty of water intakes. These automatically increase the immunity of the body and thus, keep the disease in check.

Conclusion– Thus we can conclude from this study that autoimmune hepatitis is caused by Bhutangni Manda janya Ama. So firstly, correct Agni and life style modification. Rasayana therapy is very effective in reducing symptoms of autoimmune hepatitis due to its Deepana-Pachana, Vata- Kapha Shamaka, antioxidant properties; it is very suitable for interrupting the pathogenesis of the disease. Anti-oxidants are the key elements in the immune system which the body uses in order to neutralize the activity of dangerous and over the long term, deadly free radical enemies.

References: -

- Alvarez F, Berg PA, Bianchi FB, Bianchi L, Burroughs AK, Cancado EL, Chapman RW, Cooksley WG, Czaja AJ, Desmond VI, et al. International Autoimmune Hepatitis Group Report: review of criteria for diagnosis of autoimmune hepatitis. *J Hepatol.* 1999; 31:929–938. [PubMed] [Google Scholar]
- European Association for the Study of the Liver. EASL Clinical Practice Guidelines: Autoimmune hepatitis. *J Hepatol.* 2015; 63: 971-1004. [PubMed] [DOI]
- Manns MP, Czaja AJ, Gorham JD, Krawitt EL, Mieli-Vergani G, Vergani D, Vierling JM; American Association for the Study of Liver Diseases. Diagnosis and management of autoimmune hepatitis. *Hepatology.* 2010;51:2193-2213. [PubMed] [DOI]
- Vergani D, Mackay IR, Mieli-Vergani G. Chapter 61 - Hepatitis [Internet]. *The Autoimmune Diseases (Fifth Edition)*. Boston: Academic Press; 2014; [cited 2016 Oct 15]. page 889-907 Available from: <http://www.sciencedirect.com/science/article/pii/B9780123849298000617>.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol.4th, chapter chikitsa 15th/ 6- 8, page no. 4- 5.
- P.V. Sharma, Susruta Samhita with English translation of text and Dalhana's commentary, Chaukambhavisvabharti, Varanasi 1999, Vol. 1st, chapter sutra 46th/ 499- 500, page no. 529-530.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 4th ,chapter chikitsa 15th/ 44 , page no. 24– 25.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 4th ,chapter chikitsa 15th/ 38 , page no. 22- 23.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 4th ,chapter chikitsa 15th/ 6, page no. 3- 4.
- Prof. K.R. Srikanthamurthy ,AstangaHridayam of Vagbhata, English translation ,notes , Chaukambha Sanskrit Series of India, Varanasi- reprint 2004 , Vol. 1st ,chapter 3rd sharirsthana/ 50-54 , page no. 404- 405.
- Prof. K. R. Srikanthamurthy ,AstangaHridayam of Vagbhata, English translation ,notes , Chaukambha Sanskrit Series of India, Varanasi- reprint 2004 , Vol. 1st ,chapter 12th sutra sthana / 8 , page no. 167.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 4th ,chapter chikitsa 15/13, 14 , page no. 9- 10.
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 1st ,chapter sutra 28/15 , page no. 22- 23.
- Prof. K. R. Srikanthamurthy ,AstangaHridayam of Vagbhata, English translation ,notes , Chaukambha Sanskrit Series of India, Varanasi- reprint 2004 , Vol. 1th ,chapter sutra 13th/ 25 , page no. 187.
- Liberal R, Longhi MS, Mieli-Vergani G, Vergani D. Pathogenesis of autoimmune hepatitis. *Best Pract Res Clin Gastroenterol.* 2011; 25:653–664. [PubMed] [Google Scholar]
- Prof. K. R. Srikanthamurthy ,AstangaHridayam of Vagbhata, English translation ,notes , Chaukambha Sanskrit Series of India, Varanasi- reprint 2004 , Vol. 1st ,chapter 9th sutra sthana / 20 , page no. 140.
- Vaidya Jadavji Trikramji Acharya, Charaka Samhita of Agnivesh revised by Charaka and Drdhabala with the Ayurveda dipika commentary of Cakrapani Datta, Krishnadas academy, Varanasi- 2000, chapter chikitsa 15/13-15, page no. 513- 514.
- Prof. K. R. Srikanthamurthy ,AstangaHridayam of Vagbhata, English translation ,notes , Chaukambha Sanskrit Series of India, Varanasi- reprint 2004 , Vol. 1th ,chapter sutra 13th/ 26-27 , page no. 187.
- Prof. P.V. Sharma, Dravyagunavigyanam, Chaukambha Bharati Academy, Varanasi- reprint 2005, Vol. 2nd, Chapter 4th, 5th, 9th, page no. (276-277), (331-335), (350-354), (362-365), (753- 758).
- Prof. P.V. Sharma, Dravyagunavigyanam, Chaukambha Bharati Academy, Varanasi- reprint 2005, Vol. 2nd, Chapter 1st, 2nd, 4th, 9th, page no. (54-58), (149- 152), (241 - 244), (697-699), (761- 763).
- R. K. Sharma and Vaidya BhagwanDash ,Charaka Samhita of Agnivesh, English translation, based on Cakrapani Datta's Ayurveda dipika, edition 3rd, Chaukambha Sanskrit Series of India, Varanasi- 2002, Vol. 1st ,chapter sutra 13/14 , page no. 248.
- P.V. Sharma, Susruta Samhita with English translation of text and Dalhana's commentary, Chaukambhavisvabharti, Varanasi 1999, Vol. 1st, chapter sutra 45th/ 96- 97, page no. 435-436.
- Prof. P.V. Sharma, Dravyagunavigyanam, Chaukambha Bharati Academy, Varanasi- reprint 2005, Vol. 2nd, Chapter 4th, 5th, 9th, page no. (239-241), (340- 343), (719 -721), (753-758), (758-760).