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Malabsorption Syndrome - An Ayurvedic Perspective

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ABSTRACT

With the progress in health care and management services, human being have also come up with accepting and practicing different dietary regimens which has shown its increased capability to ingest a vast variety of dietary items but do we are enough capable to digest the same, this is the question to be looked for. This brings us to study the basics and advanced mechanics behind the fate of so called food when we ingest it. Our body actually tries to make the things homologous with the same of our bodily constitution. The working tissues of a living body must be supplied enough with essential nutrients from time to time. For proper growth, development, assimilation and overall health of a living being we are dependent on bioavailability, processing and palatability of food as per requirements of body.

In a community, the public health is there after being screened through various health and nutritional surveys, data collection, summarizing and annual reports and so on. Working on the ground level it is necessary to look for proper supply, intake, and hygiene and of course proper digestion, absorption of the supplements provided in surveys. Any impairment or deviation in this chain may lead to nutritional disorders. Malabsorption syndrome refers to a number of disorders in which the intestine can't adequately absorb certain nutrients into the bloodstream.

The fate of ingested food depends on several factors when seen through *Ayurvedic* approach as like – *Doshas* governing the bodily activities, *Agni* the component responsible for biotransformation, *Kostha* the functional status of intestinal gut line. Here *doshas* a play a very crucial role right from entry of food to fate and biological waste expulsion. The present topic mainly highlights the Malabsorption syndrome in view of impairment of functioning of doshas.

KEYWORDS *Malabsorption syndrome, Doshas, Agni, Kostha*



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INTRODUCTION

Digestion, absorption and metabolism of ingested contents are a complex, highly coordinated and extreme efficient process of living beings. Out of all the contents which are ingested a very small amount is excreted via feces. It is suggestive of well coordinated, balanced and collaborative work of our digestive system and structures involved in it. This altogether comprises of a major function of absorption of the contents which are the resultant outcome after proper digestion process. Absorption of all nutrients takes place only after proper biotransformation, conversion of macro to their respective micro substances, involving a series of lot of chemical reactions. Imbalance or deviation in any of the above mentioned process leads to impaired absorption which further results into malnutrition and various ailments associated with the same.

After the primary work done by *Jatharagni*¹ this is the *Doshas* role to carry the micro substances and supply them to every small body tissue via micro circulating channels throughout body. The current topic is so chosen because with the advancement of time we tend to practice *Dosha Prakopaka* and *Dhatu Pradhushankar Ahara* thus diminishing the nutritional status of an

individual. Result is deficiency of essential nutrients supply to body leading to Malabsorption syndrome with clinical manifestations. *Ayurveda* has a holistic approach towards any disease as it rightly emphasizes on correction of any deviation later and prevention from being diseased primarily.

AIMS & OBJECTIVES

To highlight the Malabsorption syndrome in view of *Ayurvedic* aspect

Materials

Literature from various *Ayurvedic* and Modern treatise regarding *Dosha*, *Agni*, Digestion process and Malabsorption was collectively summarized.

Review of Literature:-

Malabsorption syndrome refers to a number of disorders which are the outcome of inability of gut line and its flora to absorb certain nutrients into the bloodstream. The osmotic load resulting from the inability of the intestine to absorb certain nutrients leading to Diarrhea, Steatorrhea, Weight loss and fatigue, Flatulence and abdominal distention, Edema, Anemia, Bleeding disorders, Metabolic defects of bones and many more.

The Malabsorption syndrome just as per causes is classified into following stages²



1) Luminal phase-

The inadequacy, inability or impairment of the ducts which secretes and liberates the digestive secretions, enzymes into the intestinal gut accounts this factor leading to Malabsorption.

Ex. Bile from Liver, Pancreatic juice from Pancreas

2) Mucosal phase-

In this phase the surface epithelium of small intestine is damaged which alters the absorption process from the gut line thus leading to Malabsorption.

3) Post mucosal phase-

This phase executes the obstruction in the lymphatic thus preventing the uptake of absorbed nutrients. There may also be increased pressure in the lymph vessels which leaks the contents into the intestinal lumen thus presents Malabsorption.

4) Clinical phase-

There may be postoperative impairment in gastric function, over use of medication hampering the gut line and its flora leading to Malabsorption.

Diagnosing Malabsorption Syndrome

A physician may suspect Malabsorption syndrome if the patient suffers from chronic diarrhea with significant weight loss, loss of appetite, nutritional deficiencies despite of practicing healthy dietary regimen.

Digestion-Absorption-Metabolism

Phenomenon In View Of *Doshas*-

The *Doshas* being the physiological entities of bodies governs all the activities of body. From digestive point of view these *doshas* start to assist right from the entry of food till its excretion from the body and simultaneously absorption of useful part from them. The *doshas* are responsible to maintain the health of body in its balanced state and there imbalance invites a variety of diseases to which human being surrenders. Given below is the listing of major function of dosha in view of whole digestive tract.

Prana vayu-

It is responsible for secretion of saliva as soon as a person sees, hears, experiences food even though it is not ingested yet. The role of *Prana Vayu* here can be explained by the term *Buddhi, Indriya dhruka*³. This is also suggestive of cephalic phase of digestion. Impairment in this context may be seen as in dry mouth syndrome, xerostomia, impaired senses.

The second major function of *Prana Vayu* here is giving proper direction to ingested food. With ingestion this is the *Prana Vayu* itself which presents the food to stomach and other digestive structures to act on it after processing through mouth and oral cavity. The movement of food from oral



cavity to stomach and other digestive structures is supported in the form of peristalsis which states the *Aadana karma* of *Prana vayu*⁴.

Bodhak kapha-

The first and primary processing over ingested food depends on the direct contact between the substances ingested with the taste buds having taste receptors in moist environment. It is also seen practically in dry mouth syndrome like conditions where the taste perception is difficult. The moist environment here is maintained by the *Bodhaka Kapha*⁵ while the taste perception is accomplished by the *Prana Vayu* as tongue with its contents being an *Indriya* regulated by *Prana vayu*³.

Kledaka kapha-

The partially digested food is then propelled to stomach where it is again churned and mixed due to gastric movements making it very soft, moist bolus which is accompanied by the mixture of secretion from upper part of *Amashaya* viz. *Kledaka Kapha*⁶. The secretions coming from upper part of stomach are rich in mucous content.

Pachaka pitta-

This subtype is solely responsible for the almost complete digestion process associated with secretions from lower

portion of stomach, liver, pancreas, small intestinal secretions as well. This altogether makes an acidic environment with generation of heat as an outcome of most chemical reactions, reflecting the dominance of *Tej Mahabhuta* residing in *Pachaka Pitta*. It digests every small substance by getting devoid from the alkaline environment of presiding mucosal secretions. This is suggestive of *Tyaktadravatva* state of *Pachaka Pitta*. [7] This subtype of *Pitta* helps to segregate and analyze the useful and waste part from the churned and partially digested bolus. This is *Sara Kitta Vibhajana*.

Samana vayu-

This subtype of *vayu* is very important from absorption point of view. The temporary storage of ingested food, digestion, analysis as *Sara-Kitta Vibhajana* and absorption of useful (*Sara*) part is then done with the help of *Samana Vayu*⁸. It always enhances, blows *Jatharagni* to its normal extent so that this conversion of *Ahara* to *Ahara Rasa* and digestion of ingested food is carried out without any hindrance. The *Ahara Rasa* is then stimulated towards *Hridaya* so that the essential nutritional fluid is then supplied to all tissues throughout body⁹. For all this it is necessary that the digested particles must be



assimilated to make the substances homologous with body tissues.

Apana vayu-

After proper absorption through small intestine, the remaining materials are then propelled into colon from where it is expelled outside body. The transport of feces throughout the colon needs a force which initiates intestinal motility this is last subtype of *Vata Dosha* working over here viz. *Apana Vayu*¹⁰.

Malabsorption and *Dosha-*

The balanced state of *dosha* is the prime most factors to maintain the healthy condition of body.

Moreover the absorption after digestion is carried out throughout the body and its tissues. This is possible only because of the biotransformation process occurring thereby which is solely a property of component *Agni* presents in a living organism. As the content which are intended to be absorbed must be digested and made homologous to body tissues this gross conversion of macro to micro is done with the help of *Jatharagni* or *Kayagni*. The partially digested chyme is then absorbed and processed thereafter for further micro digestion in liver itself. The processed materials are then carried to heart to supply all this nutrients to body tissues via blood. The absorption is sometimes

hampered depending upon the quality wise status of intestinal membrane which is determined in terms of *Koshta*. The gut line intestinal membrane is very important and any deviation in the natural texture of this membrane attracts digestive disturbances hampering absorption.

The *Koshta* depending on the status of gut line mucosa is majorly of 3types- *Mrudu*, *Madhyam* and *Krura*¹¹. This type defines the sensitive, normal and rough, firm status of gut line. The resultant outcome with these three types of coats affects absorption in following ways-

If the intestinal gut line mucosal membrane is so sensitive then it is intolerant even to touch of liquid, hot, spicy substances like milk, coffee, beverages. This becomes worse with the intake of *Tikshna*, *Ushna*, *Sara*, *Drava guna* promoting *Pitta Dosha* dominance over there. Thus it loses its holding capacity and promotes intestinal motility leading to create an urge for defecation instantly¹².

If the intestinal mucosal membrane is dry rough and firm enough then for absorption of any substance becomes difficult as the content is unable to pass the intestinal membrane and get into circulation. This dryness gets worsen with the intake of provocative diet of *Ruksha*, *Shita*, *Laghu*



guna promoting *Vata Dosha* dominance over there. As the dryness factor gets increased there is impairment in the normal motility of intestine and subject needs to apply pressure while defecating. With the advancement of time this may lead to constipation more and more severe day by day with the vicious cycle going on¹².

The third type *Madhyam Koshta* defines the normal functioning state of gut lining mucosal membrane. So there is no any as such impairment in the intestinal motility and digestion related problems over there. This is accompanied by *Kapha dosha* alone and also by the balance of *Tridoshas*¹².

Grahani in context of Malabsorption Syndrome-

Grahani as an organ is closely resembled with the small intestinal gut line which is majorly responsible for the digestion of ingested substances. The major proportion of digestion occurs in *Grahani* as it is mentioned as a site of *Jatharagni*¹³. The principal digestion and transformation process takes place over here viz. conversion of *Ahara* into *Ahara Rasa* with *Sara Kitta Vibhajana*. This process as mentioned earlier is accompanied by *Pachaka Pitta (Pachakagni - Jatharagni)* and *Samana Vayu*. The role of *Agni* starts herewith after the food is converted into

different state which is now enriched with *Ushna, Tikshna* qualities and leaving the *Drava* state of itself. Thus the *Pachakagni* viz. *Pachaka Pitta* is continuously being inflated and enhanced with above said qualities with the help of *Samana Vayu*. The physiological functions of *Samana Vayu* here explains the temporary storage of food in *Grahani (Grunhati)*, digestion of the ingested food by accompanying *Pachakagni (Pachati)*, analysis and segregation of useful and waste part of digested food (*Vivechayati-Sarakitta Vibhajana*) and at last absorption of the useful part of the digested food (*Munchati*) so as to provide nourishment to body for proper growth and development^{7,8}.

Thus the *Agni* which is non-materialistic entity shows the increased metabolic activities and the cascade followed after is clearly manifested by the increased vitals just after ingestion of food say for – Blood pressure¹⁴. The local increase in temperature, increased perfusion to the GI tract, increased hormonal activities in GI tract and moreover increased nervous coordination in the scenario helps altogether to perform and complete the digestion process. This is duly accounted by the virtue of doshas assisting the process. Where we can say the gastric local site activities are



coordinated by the *Prana Vayu*, *Kledaka Kapha*, *Pachaka Pitta*, *Samana Vayu*, *Ranjak Pitta*, *Apana Vayu*; increased perfusion is assisted by *Vyana Vayu* while the neural and endocrinal control is very well regulated by the *Prana Vayu* itself.

The major part of the digestion process occurs in the *Grahani* where it is further said as site of *Jatharagni*. The digestion process occurring hereby is totally governed by the virtue of *Doshas*. The impact of doshas thus tends to create four different types of outcomes of digestive processes which are on the other hand named as different types of *Agni* viz.- *Vishmagni*, *Tikshnagni*, *Mandagni* and *Samagni*¹⁵. This in general indicates irregular digestive activity (*Vishmagni*), rapid digestive activity (*Tikshnagni*), slow and sluggish digestive activity (*Mandagni*); finally a balanced state of digestive activity (*Samagni*)¹⁶. Apart from *Samagni* where the doshas are in balanced condition, the other three forms of *Agni* reflects their deviation from the balanced state which is later responsible for the impaired digestion and thereby further leading to impaired absorption process. This finally may lead to Malabsorption.

DISCUSSION

Doshas being the biological entities govern all the activities inside body from subtle to

gross level. Digestion, Absorption and assimilation of ingested food further supplies essential nutrients derived from it to all the cells and tissues for growth and development. It depends on *Agni* which has an impact of doshas over it. The variability of *Doshas* functional status may also vary the digestion status of individual. The *Agni* hereby works in close assistance with dominant environment in *Koshta* which is governed by the *Guna* possessed by the respective *Doshas*. Any impairment or deviation in assistance between *Dosha*, *Agni*, *Koshta* may lead to impaired absorption. With the progression of time if this situation is not corrected it may surface with other clinical symptoms creating severe medical ailments, and leading in development of Malabsorption Syndrome. This may also be manifested as an impaired functioning status of structures associated with digestive tract and also endocrinal disorders.

Absorption of food content when seen through *Ayurvedic* perspective is the *Sara* part which is outcome of digestion process. Appropriate digestion process leads to formation of *Ahara Rasa* which is followed by the *Rasa Dhatu* formation. The *Sara* and *Kitta* thus formed are thereby worked upon by *Doshas*.



For digestion and *Sara Kitta Vibhajana* the *Pachaka Pitta* along with *Samana Vayu* must go hand in hand. It is mentioned that the *Pachaka Pitta* performs well in *Tyaktadravatva* state leaving behind highly intense and acidic environment in gut line for digestion at extreme level. This is well said in the context of *Agni – Analashabitam*. Any deviation in activities like secretion of *Pachak Pitta* or act of *Saman Vayu* or moistening of food bolus by *Kledaka Kapha* may hamper the digestion as well as absorption process. This ultimately affects the nutrition and development of organs and thus body also. The above said activities closely resemble the stages of Malabsorption syndrome as stated above.

Ayurved science suggests that one should not neglect the psychological impact over *Doshas* and thus *Agni* as seen in different shades of emotional state. It should also be noted that the blissful state of mind or psychological well being of an individual is equally important for bodily physiological activities. In most of the cases of Malabsorption syndrome, one should understand the above mentioned functions of *Sharir Doshas* and screen its emotional state also, before going to any synthetic medication.

Moreover the different phases of Malabsorption are suggestive of the status of intestinal mucosa. The luminal phase indicates secretory activities while the mucosal and sub mucosal phase depends on the quality status of the intestinal mucosal membrane which justifies the status of *Koshta* and the dominance of *dosha* with their respective guna present there.

CONCLUSION

The Malabsorption in terms of *Ayurved* can be seen majorly through the disturbance in any one or all of the attributes mentioned here - *Pachak Pitta* which is very essential in terms of digestion formerly and absorption in later stage after proper completion of *Sara Kitta Vibhajana* process; *Samana Vayu* activity responsible for absorption of digested food from intestinal lumen; and lastly *Vyana Vayu* responsible for supplying essential absorbed nutrients to every cellular structure of body; on the contrary Malabsorption also occurs due to any structural and functional abnormality of the tissues of intestinal gut line thus hampering growth and development of body. Malabsorption is clearly an outcome of in coordination activity of *doshas* which are working independently due to the *gunas* possessed by them. These *gunas* hereby play



a crucial role in Malabsorption. The *Ruksha Guna* of *Vata Dosh*a at intestinal lining prevents the materials to be absorbed whereas the *Mrudu, Drava Guna* of *Pitta Dosh*a irritates the intestinal lining and instead of holding and being absorbed it propels the content forward by stimulating intestinal motility thus expelling outward through defecation. These all things are suggestive that Malabsorption syndrome like ailments can also be studied in terms of *Ayurvedic* parameters – *Dosh*as.



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