



EHTEBAS-E-TABAI AND ROLE OF QUWAT-E-MASIKAH

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ABSTRACT

Retentive faculty (ehtebas) is the very important phenomenon among all the four phenomenon of sharait-e-taghziya, including Jazb, imsak, hazm, and dafiya, every thing we consume as diet, it passes through the process of digestion, and for proper digestion of consumed food it is necessary to stay it for a while to be proper digested, and its waste product to be expelled out, ehtebas-e-tabai is observed in each cell and every tissue for providing Quwat obtain from absorbed food particle, if quwat-e-imsak of any tissue or organ become weak it results in istefragh-e-ghair tabai which is an abnormal condition, for proper maintenance of temperament of cell and tissue ehtebas-e-tabai is necessary.

KEYWORDS: Ehtebas, imsak, istefragh-ghair-tabai.

INTRODUCTION

Ehtebas wa istefragh is one of the component of six essential factors which are necessary for existence of human being, excretion of waste material from body is compulsory, as well as needed and useful material should be stay inside the body, abnormal or excessive excretion of needed substances from body is termed as istefragh-e-ghair-zarooriyyah, which create harmful effect on the body, every food article we consume is to be digested for providing energy, and for digestion and absorption, and releasing energy it must be stay in the abdomen or other tissue for a while, which is termed as ehtebas, which performed by Retentive faculty a subordinate faculty of quwat-e-tabiyyah.^[1]

Need of Ehtebas: consumed food particle require some time to be break in small particles, and then digested, after digestion the nutrient reaches to the tissue for providing the substitute of (badl ma yatahallal), after reaching to cells and in between transfer of nutrient from GI tract to the cell at each and every place retention occur, so that the Quwat-e-mughaiyyarah (power of changing) act upon that nutritional content, and make him according to the temperament and consistency of that organ of which substitute is required, according to Ali Baqir dissolution is continuously going on in the body, so that its substitute is regularly should be provided, and because continue food intake is not possible, in this condition body need some power which retain the nutrients till next food is ingested,^[2] Burhan-al-din-nafis penned that our body is continuously require

substitute of dissolved material, and for this purpose accumulation of some food particle is needed, which is to be used in need, and this is performed by ehtebas tabai,^[3]

Atibba described Ehtebas; as the retention of beneficial material inside the cell or tissue, but after review of Unani classics I can say that, ehtebas is the process which is necessary for retention of beneficial material needed by the body, likewise retention of different secretions of body for a fixed time in the body is also called ehtebas, and quwat-e-masika is responsible for this retention.

Retention of faecal matter in large intestine, and retention of urine in bladder is a type of ehtebas, which is needed for proper functioning of large intestine and bladder, in case of Zof-e-masika of bladder there may be urinary dribbling, and incontinence, and in case of Zof-e-masikah of intestine we can observe diarrhoea, which is called istefragh-e-ghair tabai.

Ehtebas-e-tabai is needed for proper digestion and absorption as well as needed for normal excretion of waste product in normal amount and appropriate time.^[4]

Nazriyah-e-Ehtebas And Atibba-e-Qadeem

According to Unani Atibba Ehtebas is the part of sex essential factor, the factors which are responsible for maintenance of health, and recovery from the diseases, as well as they are also the cause of disease, any

imbalance in these six factors or in most of them bring about diseases, if ehtebas is natural may be of two kind, either it maintain the body in its healthy state and secondly if health is lost recover the health through the ehtebas as regimen, if the essential material of body is lost which is necessary to retain in the body, and quwat-e-masika is weak then artificial retention is performed, like deficiency of salt and water in diarrhoea is corrected by Intravenous fluid is a kind of Ehtebas (Retention).^[5]

Literal and Idiomatic meaning of ehtebas: its literal meaning is Shut down, to stop,^[6] and its idiomatic meaning is retention of mater in the body, closer of mater in the body, keeping material in the body.^[7]

Types of Ehtebas

according to Ali ibn Abbas Majusi, ehtebas is of two types

- (1) **Ehtebas-e-tabai:** Retention of those materials inside the body, whose retention is necessary to retain inside the body.
- (2) **ehtebas-e-ghair-tabai:** Retention of those materials inside the body, whose excretion is necessary.^[8]

According to Ibn Sina, Ehtebas is also of two types

- (1) **Ehtebas-e-Zaroori:** The ehtebas which occur in normal circumstance and in moderate amount.
- (2) **Ehtebas-e-Ghair-Zaroori:** The substances which should be excreted, is retained inside the body due to any cause is called ehtebas-e-ghair-zaroori.^[9]

Abu waris Jamil with reference to Kamaluddin Hamadani stated that istefragh is of two type, istefragh-e-tabai, and istefragh-e-sanai, so according to me because Istefragh is opposite of ehtebas, it should be described as ehtebas-e-tabai and ehtebas-e-sana'i.

Ehtebas-e-sana'i: Ehtebas-e-sana'i is the artificial induction of those essential things from outside to maintain the body which were lost due to istefragh-e-ghair tabai, like IV infusion in case of nutritional deficit or water deficiency caused by malnutrition, diuresis or excessive sweating, according to Allama Kabiruddin retention of Maddah (Matter) itself is called ehtebas-e-tabai, and retention through medication or regimen is called ehtebas-e-sana'i.^[1]

Comprehensive distribution of Ehtebas

Ehtebas is classified comprehensively in three type;

- (1) Ehtebas-e-taba'i/ Zaroori
- (2) Ehtebas-e-ghair-taba'i/ghair zaroori
- (3) Ehtebas sana'i

Causes of ehtebas-e-Taba'i: Unani physicians had not described special causes of ehtebas, but they consider the subordinate faculties of Quwa-t-tabiyah e.g. Quwat-e-jazibah, Quwat-e-masika, quwat-e-Hazima and Quwat-e-Dafiyah as the cause of ehtebas and specially Quwat-e-masikah is the main faculty which causes ehtebas, Hakim Akbar Arzani stated that the food which comes in contact

with organ, and has to be similar the organ, it is necessary for that food to retain that place for a while, because it take some time to be changed in organ, and this retention of food in the organ is due to Quwat-masikah of that organ.

Likewise digestive faculty and expulsive faculty should be in moderate condition, if these two faculties are abnormal they cause the ehtebas-e-ghair tabai, or istefragh-e-ghair tabai. According to Ali Baqir, ehtebas-eghair tabai is caused due to weak digestive faculty and weak expulsive faculty, when digestion is improper then it causes retention of Ghiza more than its required time, and waste product is also retained.^[2]

According to Syed Kamaluddin Hamdani, Retentive faculty retain the food till digestive start acting upon it. all these statement of unani physicians clarify that Human Physis is responsible for this ehtebas-e-tabai, tabiyat-e-insaniyah causes ehtebas-e-tabai through quwat-e-ghaziya.^[7]

Some known causes of ehtebas-e-tabai:

- (1) Moderate retentive faculty
- (2) Moderate Digestive faculty
- (3) Moderate expulsive faculty
- (4) Moderate consistency of mater
- (5) Moderate amount of mater
- (6) Moderate physiological condition of vessels
- (7) Moderate anatomy of vessels
- (8) Natural sensitivity for expulsion of mater.

All three types of faculties e.g. Quwat-e-masikah, Quwat-e-hazimah, Quwat-e-Dafiya, the sub ordinate faculties of Quwat-e-ghaziya, are responsible for ehtebas-wa-istefragh-e-tabai, along with moderate morphology of vessels, moderate opening and closing of their valves, moderate volume and condition of mater are responsible for ehtebas-e-taba-, through tabiyat.

Presence of Quwat-e-masikah in organs

Human body has a special faculty which retain the ingested beneficial food particles so that it turn into body part after digestion, and during this retention food is absorbed for next digestion, this faculty is termed as retentive faculty, which comes under Khuddam-e-ghazia of natural faculty, according to Abu sahal Majusi Khuddam-e-Ghazia are four, Jazibah, Masikah, Mughayyarah, and Dafiya, which is found in each and every organ,^[8,2] According to Ibn sina every organ has a faculty according to his temperament, which create similar organ by dietary changes,^[10] Majusi described that nature put retentive faculty in every organ ,for the retention of food in the organ till required time.^[8]

Use of Retentive faculty

Nutritional faculty and their subordinate faculties perform under Natural faculty, force of attraction brings food to the organs, force of retention retain it for a specific period, digestive power digest it, and expulsive

power excrete it after digestion and absorption, these all four faculties present in every organ at a time, but natural faculty prefer and select one or two faculty for their function, when organ is empty then nature activate force of attraction, and aggravate the retentive faculty, so that Quwat-e-masika retain the ingested food and digestive faculty digest it. Majusi write; that function of hazima start after Masikah^[8] and expulsive faculty start their function after masikah and hazima, according to me Retentive faculty is superior than all other four faculties, because this faculty help others to perform their functions.^[2]

Expulsive faculty is responsible for defecation, Which is opposite of Retention, therefore retentive faculty do not expell the faecal matter till absorption of chyle and food digestion is completed, similarly Faculty of retention is also responsible for moderate defecation, Hakim akbar arzani write that; weakness of retentive faculty causes aggravation of expulsive faculty.^[2]

It is clear now that weakness of quwwat-e-masikah is the cause of aggrvaton of quwat-e-dafiyah, which causes the istefragh-e-ghair tabiyah, moderate activity of masikah causes moderate activity of dafiyah. moderate defecation is responsible for good health, therefore quwat-e-masikah controll the quwat-e-dafiyah.

Modern concept of Ehtebas: Modern medicine do not posses concept like tabiyat which is responsible for ehtebas, and it do not have any concept similar to unani system of medicine, but they consider ehtebas in the form of ingestion, digestion, absorption, and retention, so we can say Amal-e-ehtebas occur according to modern medicine in the whole body, which is termed some time as retention, storage, accumulation, and sometime in the form dilatation of vessels.

In modern perspective if we observe we can see that nature has created valves in the body for the purpose of ehtebas, which perform ehtebas, and nature also kept the structure of various organs cumulative in nature, so that mater accumulate and stay there, for example if we study the structure of stomach, bladder, large intestine, and sweat glands, it will be clear that nature has created these organs for storage, and this storage is not performed but only by Quwat-e-masika.

When we consume food, at first it trapped in stomach for digestion, pyloric sphincter of stomach and its contraction is responsible for ehtebas-ghiza, and then chyme enters to small intestine, and slowly travel due to peristalsis movement, iliocecal valve causes prolonged retention of Maddah in to intestine, and then through large intestine fecal matter passes out, similarly vessel of the body also have precapillary sphincters, which provide blood and nutrition to the tissue according to need, dilatation of these vessels increases the fluid accumulation toward the tissue, and stay here till the tissue use its nutrient, which is the ehtebas of capillary.

After utilization of nutrient by tissue blood carry the waste product from tissue and enter the heart, from heart blood enter to kidney through renal artery, and kidney filter the blood, and filterate then enter the urinary bladder where quwat-e-masikah of bladder retain the urine for a particular period, to avoid frequent urination.

Sweating increases due to the retention of blood around sweat gland, sweat glands consist coiled secretory ducts, because of these ducts retention of sweat take place, so that its nutrients could be absorbed. Retention also take place in such respiratory devices, so that absorption of oxygen, excretion of carbondioxide and nutrition of respiratory organ could be possible.

EHTEBAS-E-TABAI IN DIFFERENT ORGANS

Ehtebas-e-tabai by stomach and intestine: According to Unani concept of digestion, digestion start in stomach, which require ihtebas-e-ghiza in stomach, while according to modern medicine digestion start from mouth, but in view of Unani perspective we start the discussion of digestion from stomach, when food enter the stomach ehtebas is needed for its proper digestion, retention of food in stomach depend upon softness and hardness and composition of consumed particles, when watery substances enter the stomach pyloric sphincter open suddenly, and this watery substance pass out quickly, but when mixed diet enter the stomach, Quwat-e-masikah of the stomach hold it for nearly 3 to 4 hours, and fatty diet nearly 4 and half hours,^[11]

There are many factors which are responsible for ehtebas, Quwat-e-masikah is one of them, which is supported by structure of stomach, its movement, and pyloric sphincter, about function of stomach Ibn Rush write that; it digest the ingest food, and convert into chyle, and this function of stomach is supported by some faculties like, jazibah, masikah, hazima, and dafiya,^[9]

Position of the stomach is most important factor which support the Quwat-e-masikah for ehtebas, as Syed Ishtiaq Ahmad stated in his book Kulliyat-e-Asri,^[13] also store food and help in digestion of fat and protein.^[13,14]

After the position of stomach, structural fibres of stomach also play the important role in ehtebas, Ibne Rushd while describing structure of stomach write that; stomach is made up of three layers, fibres of one layer is longitudinal and other is oblique, they both are found in internal side and contain nerve fibres, while outer layer is muscular and contain wide fibres.^[12]

Hakim Akbar Arzani while describing structure and function of stomach stated that; internal layer of stomach is nervous, and its some fibres are longitudinal which have force of attraction, and some are oblique which have Quwat-e-masika, because of them the food stays in stomach.^[2]

Ibn Rushd about Ehtebas write that, Function of retention and evacuation is performed by the outer wide fibers of stomach, which surround the food when it reaches the stomach till the digestion is completed.^[12]

According to modern concept stomach is made of three muscular layer, outer longitudinal, middle circular, and internal, oblique fibre, which help in peristalsis movement.^[15], peristalsis help in digestion as well as in ehtebas-e-tabai.^[8]

Ehtebas-e-tabai is totally depend upon natural opening and closure of pyloric sphincter, according to Guyton opening of pyloric sphincter and passing the food is caused by peristalsis movement, and retention of food is caused by contraction and closure of sphincter, He wrote; "when pyloric tone is normal, each strong peristaltic wave force up the several millimetres of chyme into the duodenum. Thus, peristaltic wave provide a pumping action that is called the "Pyloric pump".^[16]

EHTEBAS-E-TABA'I BY INTESTINE

Inhibitory effect of Enterogastric nervous reflex from the duodenum: When food reaches the duodenum, many enterogastric nervous reflexes are generate in the wall of duodenum that pass back to the stomach, and slow or even stop the gastric emptying as the volume of chyme in the duodenum becomes so much. The enterogastric reflexes are specially sensitive to the presence of irritants and acid in the duodenal Chyme, often becoming strongly activated in as little as 30 second, breakdown products of protein digestion also elicit these reflexes; by slowing the rate of stomach emptying, sufficient time is ensured for adequate protein digestion in the upper portion of small intestine.

Hormonal feedback from duodenum inhibits Gastric emptying: Hormones release from upper intestine inhibit the stomach emptying, the stimulus for producing the hormone is mainly fats entering the duodenum, on entering the duodenum the fat extract several different hormones from the duodenal and jejunal epithelium,, either by binding with receptor or in other way, in turn the hormones are carried by blood to the stomach, where they inhibit the activity of the pyloric pump, and at the same time slightly increase the strength of contraction of the pyloric sphincter, these effects are important because fats are much slower to be digested than most other foods. The most potent hormone which inhibit the stomach emptying are Cholecystokinin, secretin & GIP.

Cholecystokinin: Is release from jejunal mucosa in response to fatty substance in the chyme. This hormone acts as a competitive inhibitor to block the increased stomach motility caused by Gastrin.^[16]

Secretin: Secretin is released mainly from duodenal mucosa in response to gastric acid released from stomach through pylorus. This hormone has a general but weak effect of decreasing gastrointestinal motility.

Gastric inhibitory peptide(GIP): GIP is released from upper small intestine in response mainly to fat in chyme but to carbohydrate as well. Although it is known to inhibit gastric motility under some conditions,^[16]

EHTEBAS-E- IN COLON

Ileocecal junction: Ileocecal valve prevent backflow of fecal contents from colon into small intestine. the lips of ileocecal valve protrude into the lumen of the cecum, and therefore forcefully closed when excess pressure builds up in the cecum and tries to push the cecal content backward against the lips. In addition the wall of the ileum for several centimetre immediately preceeding the ileocecal valve has a thickened muscular coat called the ileocecal sphincter, this sphincter normally remain mildly constricted and slows the emptying of ileal content into cecum. the resistance to emptying at the ileocecal valve prolongs the stay of chyme in the ileum and thereby facilitate absorption. only about 1500 ml of chyme empty into the cecum each day.^[16]

Feedback control of the ileocecal sphincter: The degree of contraction of the ileocecal sphincter as well as the intensity of peristalsis in the terminal ileum is also controlled by reflexes from cecum, whenever the cecum is distended, the contraction of ileocecal sphincter is intensified and ileal peristalsis is inhibited, which delay the emptying of additional chyme from the ileum, any irritant in cecum delay the emptying.

Colon: The principle function of colon is absorption of water and electrolytes from the chyme and storage of fecal matter until it can be expelled.^[16]

EHTEBAS-E-TABA'I BY KIDNEY

Kidney which is most important excretory organ in the body, which absorb the watery portion of blood, which excrete the metabolic waste in the form of urine, urine contain urinary material along with water which are obtained from digestion and transformation in liver as well as in organs and cells, allama nafis about urine stated that urine is composed of two part, one is water, and second is sediments, which indicate the condition of hepatic, vascular, and organic digestion, Syed ishtiaq ahmad while discussing the function of kidney stated that kidney excrete the waste product ,specially sulphonic metabolic waste which is found due to protein metabolism,^[17,13]

Each kidney has a tajweef through which liquid portion from Liver enter to the kidney, the water which comes from liver is not pure but mixed with blood, kidney filter the blood and water, kidney reabsorb some portion of blood and transfer some filtered blood to the heart and lung, and some portion of blood is used by kidney itself, and water is pumped out in the form of urine through ureter to bladder, if Quwat-e-masikah or Hazima of kidney become weak the urine turn into colourful urine.^[2,8]

For the nutrition and absorption of water by kidney ehtebas is needed, help of quwat-e-masika is performed by renal structure, renal vessels and it's in sensitivity, if the kidney were sensitive then it pass the water before retention, and causes the dribbling, because of this reason in the structure of kidney ehtebas was put,^[18,2]

Urine formation begin with filtration from the glomerular capillaries into bowman's capsule of a large amount of fluid that is virtually free of proyein. Most substance in the plasma, except for proteins, are freely filtered so that their concentrations in the glomerular filtrate in bowman's capsule are almost the same as in the plasma, as filtered fluid leaves the bowman's capsule and passes through the tubule, it is modified by reabsorption of water and specific solutes back into the blood or by secretion of other substances from the peritubular capillaries into the tubule. And this filtration is only possible when ehtebas-e-tabai of urine is present.^[16]

After the re absorption of nutrient urine store in bladder till it completely filled, the amount which causes sense of micturition is 300-400 ml,^[19]. Detrusor muscle of the bladder remains relaxed to allow the bladder to store urine, and contracts during urination to release, relaxation of this muscle is also Ehtebas-tabai for urine collection,^[2]

EHTEBAS-TABA'I BY SKIN

skin is composed of two layer, dermis and epidermis, vessels, sweat glands, and sebaceous glands presents only in dermis, nutrition of skin is provided by blood vessels, and excretion of waste material is performed through sweat and sebaceous glands, for this purpose ehtebas of blood in the skin is needed, we can say that need of natural retention of blood in skin is for two purposes, first for providing nutrition to the skin, and excretion of waste products, and second is for heat loss. Nutrition in the form of blood reaches to skin during dilatation of vessels, which is caused by Nutritive faculty of the skin,^[7] Quwat-e-Ghaziya is also found in skin like other part of body, and this Quwat is combination of four faculties.^[15]

Ehtebas-e-tabai in skin is occur due to increased blood flow to the skin through vasodilatation, reason of vasodilatation is retention of nutrients in the vessels, so that tissue get their nutrition, deficiency of oxygen and nutrient support the absorptive power, and retentive faculty activated to increase the blood flow, due to vasodilatation blood accumulate into vessels and stay, which is used by digestive faculty of tissue, and expulsive faculty of skin push the waste material into veins. Retention of blood in skin is also for heat loss instead of nutrition.^[16]

Retention of blood in skin through vasodilatation is for the purpose of excretion of waste product and for heat loss, after production of sweat it is must to stay in sweat

glands for some time, so that its important nutrient be reabsorbed, Quwat of skin and sweat gland should be natural for moderate excretion of sweat, and abnormality in Quwat-e-masikah of sweat gland causes excessive sweating, for natural retention it is necessary to be the masikah and dafiya in moderate state.^[2]

EHTEBAS-E-TABA'I BY LUNGS

Respiration is the process which composed of two processes, inspiration and expiration, during inspiration oxygenated air enter the lungs, and during expiration deoxygenated air expelled out, gaseous exchange in alveoli is continuously going so that it is must to be the availability of Ruh (Oxygen) in the lungs, which absorbed by blood, and carbon dioxide is expelled out.^[20]

Functional Residual capacity: functional residual capacity is the volume remaining in the lungs after a normal, passive exhalation, in a normal individual, this is about 3L. The FRC also represents the point of the breathing cycle where lung tissue elastic recoil and chest wall outward expansion are balanced the equal. Thus FRC is unique that it is both a volume and related directly to two respiratory structures.^[21,11]

About residual volume Ibn sina write, that when inspiration from external air is obstructed this residue which is present in the lung is used by heart^[4], this residual volume of air is for providing the oxygen which we call the ehtebas-e-tabai of air in lung, porous structure of lung and its pressure is also responsible for ehtebas of air,^[4,18]. Thoracic pressure also causes ehtebas, because lung do not constrict completely after forceful expiration, it is due to the thoracic pressure, air partially reside in lung alveoli after expiration,^[11]. Exchange of gases takes place through this residual volume, this all is performed by Quwat-e-masikah, and which is beneficial for human beings.

CONCLUSION

After the review of classical text and modern books, we can conclude that, ehtebas-e-tabai is present in each and every organ, and responsible for proper functioning of the cell and tissue, Quwat-e-masikah of the cell and tissue hold the maddah till it digested and absorbed and turn into body part, if ehtebas-e-tabai is not moderate then istefragh-e-ghair tabai occur which is harmful for body, there are three type of ehtebas, Ehtebas-e-tabai/Zaroori, Ehtebas-e-ghair-tabai/ghair zaroori, Ehtebas sana'i. In Stomach the position of stomach, structural fibres of stomach also play the important role in ehtebas, Ehtebas-e-tabai is totally depend upon natural opening and closure of pyloric sphincter, enterogastric nervous reflexes are generate in the wall of duodenum that pass back to the stomach, and slow or even stop the gastric emptying. Hormones release from upper intestine inhibit the stomach emptying, the resistance to emptying at the ileocecal valve prolongs the stay of chyme in the ileum and thereby facilitate absorption.

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