

DISEASES OF ANNAVAHA SROTAS (GASTROENTEROLOGY): HISTORICAL VEIW POINT

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ABSTRACT

The diseases of the *Annavaha Srotas* (Gastro-Intestinal tract) seem to have been very frequent in ancient India as is evidenced by vivid descriptions on various gastro-intestinal tract diseases in a great length in the treatises of *Caraka*, *Susruta*, *Vagbhata* etc., and some Indian medical classics. The discussions of these diseases reveal a comprehensive knowledge of the anatomy, physiology, pathology of these diseases and study of their treatment is not only edifying but throws much light on the evolution of our ancestral magnifying knowledge of these diseases, which is most identical of present modern Gastro-enterology.

Interest in malformations/diseases goes down to the dawn of history. They have been depicted even before man could read and write. The teratological knowledge of man living in a Stone Age Civilization is expressed in rock drawings and wooden carvings of Art of Medicine, which show remarkable knowledge of detailed observation and description.

The gross anatomy of the abdomen and its contained viscera was known even from the Vedic era (1500-800 B.C.). *Ayurveda* is considered to be the *Upa-Veda* or supplementary subject of the *Atharvaveda*. Thus the *Atharvaveda* mentions the organs of gastro-intestinal tract in detail while discussing the prevalence of the diseases and its management. The *Udara* (abdomen), the *Kukṣi* (stomach), *Antrebhyah* (the small intestine), *Gudabhyah* (the rectum and the portion above of it), *Vanistha* (the large intestine), *Plasi* (the colon)¹, *Yakna* (the liver) and *Pliha* (spleen)². The intestinal worms were explained in detail in the Vedas. The organisms were classified in to *Dṛṣya* (Macro) and *Adṛṣya* (Micro)³, which were in water, earth, sky, houses. *Atharvaveda*, described mainly about 98 varieties of *Krimis* and *Krimi Janya Vyādhis* (diseases produced by bacteria, worms, insects) and treatment for different bacteria manifested diseases were explained⁴.

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The abdomen is referred to as *Kukṣi*, *Koṣṭa*, *Udara* in broad sense and specifically *Āmāśaya* (the stomach), *Kṣudrāntaram* (the small intestine) and *Sthulāntaram* (the large intestine) in ancient medical classics.

Caraka divides the interior of the stomach in to three compartments but says this division is purely imaginary. *Suśruta* gives no description of the interior but mentions the anterior perforated part of the stomach. *Caraka* mentions the intestines in to the *Grahaṇi* and the *Pakvāśaya*. The *Grahaṇi*, according to him, is the part, which lies between the perforated anterior part of *Āmāśaya* (the stomach) and the beginning of the *Pakvāśaya* (the large intestines). *Suśruta* mentions in connection with the intestines a perforated *snāyu* of the anterior part of the intestines, which perhaps refers to the ileo-coecal valve. *Suśruta* gives an elaborative description of the large intestines. The end of the large intestines, which passes in to the flexure of the rectum and measures four and half fingers in length, is called the *Gudam* (the rectum) and its interior is provided with three spiral grooves (sphincters). These grooves or ring-like muscles, lies a finger and half apart from one another are respectively known as *Pravāhiṇi*, *Visarjṇi* and *Samvaraṇi* or the grooves of outflow, defecation and closure of the anus, covering a space of four fingers and having laterally an elevation of one finger's breadth⁵. The intestines of the adult male measure 14 cubits in length, while an adult female measures only 12 cubits⁶.

Physiologically the gastro-intestinal tract is divided into the *Āmāśaya* (stomach), where the food taken is received and the cooking process commences, the *Grahaṇi* (small intestines) where the cooking process is completed and the *Pakvāśaya* (the large intestines), where the products of *Grahaṇi* cooking are desiccated and afterwards voided. *Agniveṣa* and *Suśruta* (6th century B.C.) had comprehensive knowledge of food, its composition, its functions, its digestion and its assimilation. These views are centuries ahead of their times. We find no such clear enunciation of the secretion of gastric juice and its role in the process of digestion as described in *Caraka*, 300 B.C., was myth till the Russian scientist, Pavolv Ivan (Sep. 26th 1849-Feb. 27th 1936), explained and got Noble Prize in the year 1904A.D. for the same. The whole conception of digestion is based on the analogy of cooking food for daily consumption. "The digestive fire, remaining below, cooks the food in the stomach converting it into *rasa* and refuse, even as external fire and water cook grain of rice in a vessel, for purposes of food"⁷.

The Indian medical writers consider the body a *Samudāya* (conglomeration) of the modifications of the five *Bhutas* (elements) *Prthvi* (earth), *Ap* (water), *Tejas* (fire), *Vāyu* (air) and *Ākāśa* (ether). The modifications of the five *Bhutas* (elements) which co-operate together to uphold the body are called *Dhātus* and they are seven in number, viz., *Rasa* (plasma) *Rakta* (blood) *Māmsa* (flesh), *Medas* (fat), *Asthi* (bone), *Majja* (marrow) and *Śukra* (semen). The body functions properly so long as these *Dhātus* are in proper proportions in it. When they are in normal measure they are said to be in equilibrium and this condition is called '*Dhātusāmya*'. When their normal measure is either increased or decreased, then their equilibrium is upset and this condition is called '*Dhātuvaiśamya*'. The daily regimen of a healthy person ought to be such that the equilibrium of the *Dhātus* may be properly maintained. Food and digestion sub serve this purpose.

Food is the very life of all living creatures. It subserves many important functions in the body. Its chief function is to build and nourish the various *Dhātus*, which uphold the integrity of the body. It not only nourishes and strengthens the *Dhātus*, it also helps to maintain the equilibrium of the *Dhātus*. Another function it sub serves is that it acts as fuel to the digestive fire, on replenishing it and makes it function properly.

Food is not merely the compound of the five *Bhutas*. It posses in addition various *Guṇas* (qualities) and play an important role in the physiology of digestion and metabolism. One of these qualities, the most important is the *Rasa* (taste). The nutritive power of the food of the living being depends on the *Rasas* and it is thus that food maintains life⁸. The tastes are six in number, such as sweet, sour, saline, pungent, bitter and astringent. In addition to taste, *Caraka* mentions, the food substances were considered to possess ten pairs of *Guṇas* (qualities), out of which great stress is laid on the properties of heavy and light. Foods called 'light' contain largely the properties of air and fire and 'heavy' contain largely of earth and water. Thus ancient medical scientists, believes that the two sorts of digestion, sweet and acrid, of these the sweet is heavy and acrid is light.

Food cannot sub serve it's various functions unless it is properly digested. The digestion of food is effected by *Agni* (fire), which digests, the *Vāyu*, which collects together all that is necessary for the action of fire, *Kleda* (moisture) which makes the food smooth and *Kala* (time) which helps the process of digestion⁹. *Caraka* thus describes the process of digestion: It is the life-breath called *Prāṇa* that seizes the food and sends it down to the stomach. The stomach dissolves the food with the help of liquid *Drava* (juices).

It is then softened by the *Sneha* (oily) matter¹⁰. Then in time the fire, stirred up by the life-breath called *Samāna*, blazes forth and digests the food that has been taken equally and properly. The digestive fire below cooks the food in the *Āmāśaya* (stomach), converting it into *Rasa* and *Mala* even as (external) fire and water cook grains of rice in a vessel for use as food. At the commencement of the process of digestion, the six *Rasas* contained in the food begin to be digested. Due to the digestion, a sweet reaction sets in and due to this sweet condition a foamy *Kapha* is next produced. A little while later, when the food is only half digested, a sour reaction sets in. The food in this state passes out of the *Āmāśaya* into the *Pakvāśaya*. Then springs from it a liquid substance called *Pitta*. When at last the digested food comes into the *Pakvāśaya* (intestines). It begins to be dried up by the fire and is converted into a compact mass. During this process a bitter and astringent reaction sets in, due to which *Vāta* is generated¹¹. The process of cooking, which the food undergoes is of two kinds in consequence of the *Kitta* and the *Prāsāda* which results from it. Thus when the food is thoroughly digested there produced a fine substance imbued with energy and fire. This substance, which is in the form of a juice, is called *Āhāra-Prāsāda*. The essence of the process produces the *Rasa*, which transforms into the *Dhātus* such as *Rasa* (plasma), *Rakta* (blood), *Māmsa* (flesh), *Medas* (fat), *Asthi* (bone) *Majja* (marrow) and *Sukra* (semen), are cooked by their own respective *Dhātvaṅnis*. Thus “the diverse kinds of food beneficial to a living creature, taken seasonably, on being properly digested by their fires, whose strength is excited by the digestive fire, maintain the growth, strength, complexion, happiness and prolongation of life of a healthy body, in which a development into all the upholding ingredients (*Dhātus*) is ceaselessly going on”¹². The *Prāsāda* or *Ahara-Rasa* is driven by the *Prāṇa Vāyu* along *Dhamani* trunks to the heart and from thence it flows from *Dhamanis* that arise from it to the parts and extremities of the body. Flowing from the heart, it constantly satiates, increases, nourishes and supports the body and keeps it alive¹³. *Rasa-Dhātu* is produced from the *Āhāra-Rasa*, blood from *Rasa-Dhātu*, flesh from blood, fat from flesh, bones from fat, marrow from bones and finally semen from marrow¹⁴, it continues in the shape of each *Dhātu* for a period of 3,015 *Kālas* or roughly 5 days. Thus it is converted into semen in the course of a month¹⁵. But *Caraka* mentions this transformation of food and the *Dhātus* goes on eternally like the motion of a wheel¹⁶.

For the proper functioning of the digestive process two factors are responsible, food and digestive fire. Eight considerations are laid down relating to the ordinances about food and drink. They are: *Prakṛti* (nature), *Kāraṇa* (transmutation), *Samyoga*, (combination), *Rāsi* (measure), *Deśa* (place of origin etc), *Kāla* (season and age), *Upayoga-Samsthā* (conditions of use) and *Upayoktri* (taker himself of food and drink).

The digestive fire is situated in the 'Grahāṇī'. It is of four fold in strength viz., *Tikṣṇa* (hyper), *Manda* (hypo), *Sāma* (normal) and *Viṣama* (intermittent). Its strength closely depends on the nature of the food taken, and the vitiation of the *Doṣas* produced. *Mādhava*, in his *Nidāna* says, that the digestive fire is *Manda* (mild) with the increase of *Kapha*; it is *Tikṣṇa* (keen) if *Pitta* is increased and *Viṣama* (uneven) if *Vāyu* is increased. Except the fire called 'Sama' the three others, viz., *Tikṣṇa*, *Manda* and *Viṣama* are called 'Grahāṇī' *Doṣas*. When the digestive fire becomes unequal in its strength and cooks the food taken equally and produces inequality between the *Dhātus*. If its strength is more (*Tikṣṇa*) the fuel (food taken) is not sufficient and it consumes the *Dhātus*. The fire, which is normal (*Sāma*) of person who eats judiciously and cooks the food equally, causes harmony of the *Dhātus*. The fire that is mild (*Manda*) simply scorches the food taken and such food does not contribute to the growth or harmony of the *Dhātus*¹⁷.

Mādhava emphasized the Gastro-intestinal diseases as *Ajirṇa*, *Viṣucika*, *Alasaka*, *Vilamba*, caused by *Manda Agni*¹⁸. Diseases of the gastro-intestinal tract may be classified, which are produced by disorders of the stomach, the small intestines, the large intestines, and those of the abdomen are:

1. *Ajirṇa*
2. *Grahāṇī*
3. *Atisāra*
4. *Udara*.

Ajirṇa (Indigestion)

This results from the neglect of the ordinances about food and drink. Drinking of an abnormal quantity of water, irregular eating, voluntary suppression of any natural urgings of the body, sleep in the day, keeping late hours in the night, partaking of a 'light' food with a strong appetite, are the factors which interfere with the proper digestion of food and develop symptoms of indigestion. The food taken by a person under the influence of

envy, passion, greed or anger etc., or by a man suffering from a chronic distemper, is not properly digested. Four types of indigestion are mentioned viz., *Āma*, *Vidagdha*, *Vistabdha* and *Rasa-Śeṣa Ajirṇas*. A case of indigestion in which the un-digested food matter acquires a sweet taste is called '*Āmājirṇa*' (mucous indigestion); that in which the undigested food-matter acquires an acid taste is called '*Vidagdhājirṇa*' (acid indigestion); that in which the food-matter brought down the stomach is partially or irregularly digested followed by pricking or piercing pain in the stomach and entire suppression of the flatus is called '*Vistabdha*' (obstructed indigestion). The *Rasa – Śeṣa* type of indigestion is characterized by pain in the region of the heart. In *Rasa-Śeṣa* type of indigestion the *Prasāda-Rasa* is not transformed into the *Dhātus* but remains unassimilated.

Grahaṇi diseases

The '*Grahaṇi*' means which receives the food. It occupies a key position in the diseases of the gastro-intestinal tract. It is situated between the *Āmāsāya* and the *Pakvāsāya* and receives the semi-digested food from the *Āmāsāya* and digests it completely. It is the seat of the digestive fire. The digestive fire in this location is exposed to various vitiating influences. All those factors, which have enumerated as causing *Ajirṇa*, play an active part in the vitiation of the digestive fire. As a result of these influences the strength of the digestive fire is adversely affected. Food influences the digestive fire through the vitiation of the bodily *Doṣas*. As the excitation of the *Pitta* produces the *Tikṣṇa*, *Kapha* produces the *Manda* and the *Vāyu* produces the *Viṣama* type of digestive fire. These three *Tikṣṇa*, *Manda* and *Viṣama* are designated as *Grahaṇi* disorders. As a result of these disorders four types of '*Grahaṇi*' diseases are produced: the *Vātaja*, the *Pittaja*, the *Kaphaja* and the *Tridoṣa* types.

Dryness of the throat and of the mouth, hunger and thirst, black-outs, noises in the ears, constant pains in the flanks, the thighs, the groins, and the neck, loose motions, and vomiting with pains like those of caused by needles, pains in the chest, emaciation weakness, tastelessness of the mouth, cutting pains in the anus and a longing for food and drink of all tastes, cheerlessness of the mind, these are the symptoms of *Grahaṇi* disease caused by excited *Vāyu*. In this disease, when the food taken is being digested or after it has been digested, there is flatulence of the stomach. The patient thinks that he got wind-born abdominal tumor or disease of the chest or enlargement of the spleen. The patient repeatedly, and with great pain, evacuates stools that are sometimes watery,

sometimes scanty, sometimes consisting of undigested matter and frothy the downward *vāyu* making loud noise at the time.

The *Pitta* becomes excited in consequence of food that is pungent or that is difficult of digestion or that causes a burning sensation in the stomach or that consists of alkaline ashes and the like. It then covers the digestive fire and extinguishes it, like hot water extinguishing a blazing fire. The patient assumes a yellow complexion and evacuates liquid stools that consist of undigested matter and are of blue and yellow color. The patient is affected by eructation's that are of a fetid smell and characterized by acidity, as also by burning of the chest and throat, by disgust for food and by thirst.

Through food that is heavy or excessively oily or cold and through indulgence in sleep immediately after meals, the *Kapha* becoming excited extinguishes the digestive fire. Hiccup, vomiting, disgust for food, a sensation of the mouth being overlaid by a coating of mucus, a taste of sweetness, cough, spitting are the symptoms of *Grahaṇi* disease caused by excited *Kapha*. The eructation's are of a fetid smell and sweet taste. The stools evacuated are broken and heavy and consist largely of undigested matter and mucus. The patient, even if emaciated, feels weakness and languor.

When the causes and the symptoms set forth above of *Grahaṇi* disease caused by the excitation of *Vāyu*, *Pitta* and *Kapha* are seen in a state of combination, the disease should be regarded as characterized by the three *Doṣas* excited simultaneously.

The deranged bodily *Doṣa* involved in a case of *Grahaṇi* imparts its characteristic color to the fingernails, eyes, face and excreta of the patient. Thus it furnishes a satisfactory clue to diagnosis of the disease, which, if neglected or unchecked at the outset, may usher in an attack *Hṛdroga* (disease of the heart), *Pāṇdu* (anemia), *Udara* (ascites etc.), *Gulma*, piles and enlargement of spleen¹⁹.

Atisāra includes all diseases, which are characterized by a constant oozing out of liquid fecal matter from the anus and as such includes all varieties of diarrheas, dysenteries of all kinds and diseases of the rectum characterized by blood discharge. It is a composite group and comprises of all cases of enteritis and colitis.

The excessive use of extremely heavy, oleaginous, dry, hot, cold, fluid, thick and incompatible articles of food, eating irregularly and at improper times, indigestion, eating before the digestion of the previous meal, excessive use or misuse of any lardaceous

substances, etc., use of any poison, fright, grief, drinking impure water the excessive drinking of liquor, change of season, or physical contrite, indulgence in aquatic sports, voluntary repression of any natural urging (of the body) or generation of parasites in the intestines are listed as the causes of *Atisāra*.

The *Ap-Dhātu* (liquid part) of the body if aggravated and carried down-wards by the bodily *Vāyu*, impairs the digestive fire in the stomach and mixes with the fecal matter, is painfully and constantly voided through the anus. This dangerous disease is named *Atisāra* from the constant oozing out of liquid fecal matter from the anus.

It is classified into six different types, viz., those due to the predominance of the deranged bodily *Doṣas* severally involved therein, that due to the concerted action of the three *Doṣas*, one due to grief and that due to the indigested mucus accumulations (*Āma*) in the intestines, and of stool, distension of the abdomen and indigestion are the premonitory symptoms of this disease.

The *Vātaja* type is characterized by colic, suppression of urine, rumbling sound in the intestines, passing of *Apāṇa Vāyu* (flatulence), frequent motions with flatus, of a scanty, frothy, dry brown-colored stool. In the *Pittaja* type the stool is fetid, hot, yellow, blue, or slightly red-colored or resembles the washings of meat and is voided with sharp or acute force and is accompanied by thirst, epileptic fits, burning sensation, perspiration, suppuration and inflammation of the affected organs and fever. In the *Kaphaja* type the stool becomes loose and constant, gets mixed with lumps of mucus and looks white. The stool is voided without any sound. A sense of constant urging is complained of and each motion creates the apprehension of a fresh one in the mind. The patient becomes drowsy, or sleepy and feels a sense of heaviness in the limbs, nausea, disrelish for food and lassitude. The symptoms, which mark a case of *Tridoṣaja* type, are drowsiness, swoon, lassitude, and dryness of the mouth, thirst and a varied color of the stool. A form of *Atisāra*, which occurs as a complication of the *Vātaja* type is called *Pravāhika* (flowing). Due to the use of unwholesome food, the *Vāyu* is deranged and aggravated and carries down the accumulated of mucus (*Valasa*) into the lower part of the body whence mixed with stools, they are constantly voided the tenesmus. *Raktātisāra* is the name given to a form, which complicates the *Pittaja* type of *Atisāra*. If the bodily *Pitta* of a patient suffering from *Pittajā Atisāra* is further aggravated and deranged by *Pitta* exciting articles of food, it revokes the discharge of blood with the stool accompanied by fever, burning sensation, thirst, gripping and excessive inflammation of the *Guda* (anus).

A special mention should be made of the *Atisāra* provoked by *Sōka* (grief), which is called *Sōkaja Atisāra*. The effect of emotions on digestion was well recognized. Thus *Caraka* writes “Food and drink also which are taken with a mind burning with lust, and wrath and cupidity and distraction and envy and shame and grief and avarice and anxiety and that is taken according to proper measure is not digested in consequence of anxiety, grief, fear, wrath, misery, (the inactivity of continuous) lying down and wakefulness²⁰. “The suppressed tears of a bereaved person on a sparing diet, on quenching the digestive fire, reach down into the *Koṣṭa* and there freely mix with and vitiate the local blood, which becomes dark-red like *Gunja* (*Abrus Precatorius*) seeds. It then passes through the rectum, charged with a fetid smell or without any smell²¹.”

In the *Āmāja* type the stools are voided in combination with the undigested food material in various ways and are attended with pain and characterized by a variety color. It is worth noting that a variety of *Atisāra* is attributed to the drinking of impure water and another to the presence of worms in the intestines.

Some of the prognostic indications mentioned in connection with *Atisāra* reveal a keen sense of clinical observation. “If the color of the stool in a case of *Atisāra* resembles that of clarified butter, fat, oil, goat’s milk, brain-matter, honey, or if it is charged with a fleshy or fetid smell or lined with lines or specks of variegated colors or if it looks like pus or clay, etc., the case is likely to end fatally. If a patient suffering from *Atisāra* is weak, if the orifice of his anus becomes suppurated and cannot be closed, if there is distension of the abdomen and if destitute of normal heat, the case is incurable²².”

This description of the stools as resembling that of clarified butter, fat oil, brain-matter, and clay suggest the sprue syndrome the steatorrhoea associated with disease of the pancreas and the sprue syndrome and the mal-absorption syndromes.

Ancient Indian Medical classics say that the diseases born by undigested food are of two kinds *Viṣucika* and *Alasaka*. *Viṣucika*, which characterized by vomiting and purging. Such symptomatology is most identical with the modern medicine ‘Cholera’. *Alasaka* exhibits, in excess, all the symptoms of undigested food except vomiting and purging. This disease may compare with tympanitis.

Udara (dropsy with an abnormal condition of the abdomen) seems to have been a common disease in ancient times. Thus *Agniveṣa* makes a request to *Punarvasu*:

“O holy one, men are seen to be afflicted with ailments of the *Udara* (abdomen). Their faces are dried up. Their limbs are emaciated, abdomen swollen and digestive capacity is drastically decreased. They are incapable of every kind of exertion. I desire to know accurately the causes, the varieties, the premonitory indications, symptoms and the remedies of these diseases, fully expounded by my preceptor”. *Punarvasu* replies, “From vitiation of the digestive fire and increase of faecal matter, diverse kinds of ailments, especially those of the *Udara*, break out in human beings. When the digestive fire becomes weakened, in consequence of filthy food one takes at that time, indigestion sets in owing to which hampers the *doṣas* and the accumulated *Doṣas* agitate the digestive fire. They obstruct all the ducts of the lower and the upper region. It results in an enlargement of the abdomen, which becomes glossy on the surface and is full of water being rounded about the umbilicus and raised like a water-drum. It fluctuates under pressure, oscillates and makes a peculiar sound like a water drum under percussion²³.”

The disease *Udara*, are eight types, out which the *Plihodara* (*Pliha* including *Yakrit*) and *Baddhagudodara* (tympanities due to constriction of the anus), *Āgantuka* (traumatic or extraneous origin) and *Dakodara* (ascites) were vividly described in ancient medical classics. *Plihodara* and *Yakritodara* are dropsy associated with enlargement of the spleen or the liver or both. This syndrome of enlarged spleen and affection of the liver associated with ascites and prominent veins of the abdomen is suggestive of splenic anemia and the Banti’s syndrome, which is still commonly met with in our wards. Another variety of cirrhosis in young children is mentioned by *Suśruta* as one of the *Nava Graha* (nine Planets) diseases of childhood, is called *Mukhamandika Graha*. The signs of symptoms of the disease are described: The complexion of the patient is pale, edema of the feet and extremities are noticed, net-like veins appear on the body, and there is an emission of urine-like smell of the body. The appetite of the child is described as voracious²⁴. These conditions emphasize fact that cirrhosis of the liver was of common occurrence both in children and adults, even in the time of *Suśruta* (6th Century B.C). *Āgantuka Udaram* results from perforation of the intestines. It gives rise to a distension of the lower part of the abdomen situated below the umbilicus. *Dakodaram* is the result of the derangement of the water-carrying channels of the body. All cases of *Udaram* after a lapse of considerable time develop into those of ascites. Loss of appetite, delay in digesting food that is oily and heavy, a burning sensation of the chest produced by all kinds of food

and drink that may be taken, slight swelling of the feet, continued decay of strength, hard breathing even after slight exertion, increase of stools, noise in the intestines, swelling of the abdomen, distension of the stomach after taking even 'light' and little food, the appearance wrinkles of the abdomen, these are some of the premonitory symptoms of diseases of the *Udara* (abdomen). Noises in the intestines, flatulence, swelling of both the feet and hands, weakness of the digestive fire, smoothness and sheen of the cheeks and emaciation are the symptoms when the disease is established.

MODERN

Duodenum

HEROPHILUS, Greek surgeon and anatomist in Egypt, 335-280 B.C., is credited with introducing the term duodenum, so called because the length of the part is about twelve fingers breadth. Based on the Latin *duodemi*, twelve each.

Polyposis of the colon

HUBERT VON LUSCHKA, German anatomist, 1820-1875, is credited with giving the first clear description of polyposis of the colon in 1861.

Amoebic dysentery

SAMUEL PURCHAS, English compiler of travelogues, 1575-1626, was the first to record the use of ipecac in the treatment of amoebic dysentery in his *Pilgrimes* in 1625.

Bacillary Dysentery

JOHANN GEORGE ZIMMERMANN, German physician, 1728-1795, is credited with writing the first important work on bacillary dysentery, in 1767.

Dysphagia with glossitis and anemia

HENRY STANLEY PLUMMER, American physician, 1874-1936, described a syndrome of dysphagia, glossitis and anemia, often accompanied by splenomegaly and atrophy of oral and pharyngeal tissue. Recorded in 1912. The condition was also described by D. R. PATERSON, in 1919 and by PORTER PAISLEY VINSON (American physician 1890-), in 1922, known as Plummer-Vinson syndrome. An earlier report by Vinson is dated 1919.

Discovery of hydrochloric acid in gastric juice

WILLIAM PROUT, English physiologist, 1785-1850, discovered the presence of hydrochloric acid in gastric juice, in 1824.

Gastric ulcer

JEAN CRUVEILHIER, French pathologist, 1791-1874, described several cases of gastric ulcer, in 1830. Known to the French as 'la maladie de Cruveilhier'.

Symptoms of Gastric ulcer

MATTHEW BAILLIE, English physician, 1761-1823, gave the first adequate description of the symptoms and morbid anatomy of gastric ulcer, recorded in 1793.

Perforated Gastric ulcer

CHRISTOPHER RAWLINSON, English physician, 168 - 1752, presented the first recorded case of a perforated gastric ulcer, published in 1727.

Perforated Gastric ulcer

LUDWIG HEUSNER, German surgeon, 1846-1916, was the first to suture successfully a perforation of a gastric ulcer, in 1892. Reported by HERMANN KRIEGE, in 1892.

Gastrosuccorhea

MIKOLAJ REICHMANN, Polish physician, 1851-1918, gave the first description of gastrosuccorhea, a condition marked by chronic hyper secretion of gastric juice, published in 1882.

Eradication of Intestinal worms

ALEXANDER OF TRALLES, Byzantine physician and author, 525-605 was the author of a masterwork titled '*The Art of Medicine*', consisting of twelve volumes. He was also the author of an original work on intestinal worms and methods for their eradication. The exact date of this is not available. Some observers consider him the first parasitologist.

Circular folds of small intestines

THEODOR KERCKRING, German anatomist in Holland, 1640-1693, described the transverse mucous folds of the small intestines. Recorded in 1670, known as *valvulae conniventes* (closing valves) and *Kerckring's folds* or *valves*.

Vertical folds of the anal canal

GIOVANNI BATTISTA MORGAGNI, Italian anatomist and pathologist, 1682-1771, described vertical folds of mucous membrane in the upper part of the anal canal, or in the rectum. Published in 1719, known as *column of Morgagni*.

Rectal valves

JOHN HOUSTAN, Irish physician, 1802-1845, described the transverse folds of the rectal wall, which form the rectal valve, in 1830, known as *Houstan's valves*.

Rectal excision for cancer

RICHARD VON VOLKMANN, German surgeon, 1830-1889, is said to have been the first to excise the rectum for cancer, recorded in 1878.

Strangulation of small intestine

JOHN HILTON, English surgeon, 1804-1878, with GOLDING BIRD, English physician, 1814-1854, performed the first recorded operation for relief of internal strangulation of the small intestine, in 1847. No anesthesia was used, and the patient was died nine hours after operation.

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सारांश

अन्नवाह स्रोत रोग (गेस्ट्रोइन्ट्रोलोजी) - एक एतिहासिक दृष्टिकोण

ऐ. नारायण

ऐसा प्रतीत होता है कि अन्नवाह स्रोत के रोग प्राचीन भारत में भी प्रायः हुआ करते थे क्योंकि चरक, सुश्रुत, वागभट्ट आदि आयुर्वेदीय संहिताओं में विभिन्न अन्नवाह स्रोत व्याधियों का पर्याप्त एवं स्पष्ट उल्लेख मिलता है। इन व्याधियों के विषय में प्राप्त विवरणों से तत्सम्बन्धित शरीर रचना विज्ञान, जीव विज्ञान तथा व्याधि विज्ञान इत्यादी का ज्ञान प्राप्त होता है। इनके उपचार के बारे में किया गया अध्ययन न केवल ज्ञानवर्धक है बल्कि अपने पूर्वजों के व्यापक ज्ञान के क्रमिक विकास पर भी प्रकाश डालता है जो आधुनिक अन्नवाह रोगों से भिन्न नहीं है।