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DISEASES OF THE ALIMENTARY CANAL.

From Lectures on the Theory and Practice of Medicine, at University College, London, by
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WE now come to the consideration of the *diseases of the alimentary canal*, beginning with inflammation; and perhaps it will be better to commence with the intense forms of inflammation, previous to considering the functional diseases. As to the varieties of inflammation, they are distinguished by the rules which we have already laid down, when treating of inflammations of the air-tubes, and the same divisions of phenomena may here be made: that is to say, the superficial and the deep-seated. This distinction was made by Cullen, who divided the forms of gastritis into the *erythematica* or superficial, and the *phlegmonodea* or deep-seated. This definition, however, of the two diseases, does not appear the most exact, and his description is somewhat loose and faulty.

Thus, we know that there is frequently severe pain, with a considerable amount of fever, in the erythematic forms of gastritis; whereas the phlegmonous form is often accompanied by little pain and no fever. Divisions have been attempted by modern physiologists, who have given us several varieties of this disease. Among these, we may remark the *diphtheritic gastritis*, or that form which is attended with the secretion of false membranes; *follicular gastritis*, affecting the follicular apparatus, and which more especially corresponds with the erythematic form of Cullen; and, also, that variety accompanied by *softening* and a tendency to *gangrene* of the textures. All of these may be acute, sub-acute, or chronic. I do not think, practically speaking, we can establish these distinctions, with regard to adults, but in children several of them are to be distinguished after death. I am content, therefore, to divide gastritis into the *acute* or *intense* form which involves all the textures, and the *sub-acute* species, which may be regarded principally as functional. The one is accompanied by considerable derangement and mischief, while the other is but superficial, and corresponds with the catarrhal variety of inflammation in the air-tubes.

I shall consider, first of all, that acute form of gastritis, which chiefly occurs with dyspepsia, and is commonly known under the name of gastritic dyspepsia. This may not be the most precise or scientific mode of describing it, but it is the best for this reason: that it is more allied in

its symptoms, and is apt to occur in many cases, with some forms of dyspepsia. This acute form of gastritis is also found to occur as a consequence of poison introduced into the stomach, and so forth. Acute or intense gastritis is commonly accompanied by pain, beginning frequently like cramps in the stomach, or a feeling of burning, attended by ardent thirst, with a particular desire for cold and acid drinks; generally, too, there is great nausea, and eventually obstinate vomiting. In the early stage, sometimes, there is vomiting of blood. The pain in the stomach is increased by warm fluids; there is extreme tenderness at the epigastrium, where a throbbing is often felt from the action of the neighboring arteries, and a determination of blood. The fever is commonly inflammatory, but this will depend on circumstances; and, in some instances, especially when excited by poisons, it becomes of a typhoid character. Poisons are of themselves depressing; but, independently of this circumstance, where there is a good deal of inflammatory fever at first, there is soon a corresponding amount of depression. The pulse, at first strong, soon becomes weak, frequent, and sometimes intermitting; there is extreme anxiety and restlessness; a great degree of distress and discomfort, and almost agony, depicted on the countenance. At times there is a chilling sensation. The tongue varies in its appearance; sometimes it is florid and dry, and, in other cases, red and glazed; this is more common in the chronic form. If the vomiting continue, there may be blood thrown up with alimentary substances, or a mucous and slimy matter, and there may even be regurgitation from the duodenum into the stomach. There is great agitation, some dyspnoea, and tormenting thirst. In some cases, the abdomen becomes tympanitic, and a gradual sinking takes place. Frequently, before sinking takes place, a considerable calm occurs in the symptoms; the irritation subsides, the patient appears to be in a state of extreme exhaustion, and the pulse becomes intermitting and extremely weak; the surface cold, and the skin collapsed. It sometimes happens that the symptoms are disguised by delirium: the patient does not complain of severe pain, but there will be considerable uneasiness manifested on pressure at the epigastrium. The bowels are generally costive in gastritis, but not so obstinately so as in enteritis.

The exciting causes of intense gastritis are: various circumstances producing severe irritation of the stomach. Drinking cold liquids, after exhaustion by heat, has been known to produce it. A former attack predisposes to a recurrence of the disease, upon exposure to cold. An undue quantity of food, or food of an improper nature, taken into the stomach, is sometimes followed by gastritis. Acid or corrosive poisons will also cause it. Gout is sometimes followed by gastritis. Suppression of the urine is likewise accompanied by a very fatal form of gastritis; but I do not think it is quite right to consider this under the head of gastritis in general. The gastritis that occurs here is accompanied by violent vomiting, and the symptoms of inflammation are very intense; but as we shall find, by-and-by, this is rather connected with the non-secretion of the urea through the kidneys. The irritation sometimes is in one part, and sometimes in another, in intense gastritis. This disease some-

times follows a sudden shock or mental emotion. Some febrile diseases, too, produce peculiar irritation of an intense character in the stomach. Erysipelas is accompanied by violent vomiting, intense thirst, and all the other symptoms I have described.

Duodenitis, or inflammation of the duodenum, is frequently combined with gastritis; and, when severe, it is attended by pain in the right hypochondriac region, and the liver becomes involved in the disorder. Duodenitis is a frequent complication of gastritis, and then, besides the tenderness in the epigastrium, and in the hypochondrium, there are symptoms of fulness in the liver, and jaundice often supervenes. There is usually, under these circumstances, a great exacerbation of all the symptoms in consequence of the interference with the free secretion of the bile. This imperfect secretion of bile is manifested not only by jaundice, but by the stools passing of a clay color. With this complication of gastritis, there is often delirium and coma. There is sometimes, too, in these cases, an apparent vomiting of blood or black matter, like coffee-grounds, in considerable quantities; and this is apt to occur especially when the duodenum is involved. Duodenitis, occurring in connection with gastritis, is a common cause of acute attacks of jaundice, unconnected with organic disease. In these cases there is an extension of inflammation to the liver itself, or it may be probably only to the ducts, preventing the discharge of the bile. This may lead to the absorption, and even obstruction and partial suppression, of the secretion. The great reason why gastritis is usually accompanied by disease of the liver, is found in the intimate vascular connection between these two organs, and which thus causes a derangement or disturbance of all the functions.

Before noticing the treatment of this disease, I must advert to deep-seated inflammation of the other small intestines, the *jejunum* and *ileum*, constituting intense *enteritis*. This sometimes occurs in connection with gastritis, in consequence of the effect of poisons; when the disease is excited by irritating poisons, the stomach is often inflamed in the first instance, and the intestines afterwards; or it may be that the symptoms present themselves simultaneously. Perhaps, the most remarkable feature of enteritis, in connection with gastritis, consists in there being no vomiting, although there may be nausea. There may be an immediate increase of pain and discomfort on taking food or liquids, anorexia, thirst and feverishness, with the same kind of extreme pain and tenderness, but it is differently situated. Instead of being confined to the epigastrium, it extends down to the umbilicus, and towards the iliac region. There is, sometimes, tenderness when the pain is not very severe. The pain is at first rather of a spasmodic character, not constant; but, as the disease goes on, it becomes more constant, and less spasmodic. Diarrhoea is not common in the intense form of enteritis. When the disease continues long, it is accompanied by all the symptoms of prostration, as in gastritis: the features become contracted, and the countenance exhibits great anxiety and distress; there is extreme weakness, with an indisposition to move: the movements of the body producing some amount of pain, though perhaps not so much as in peritonitis. Obstinate constipation occurs

very commonly, and perhaps it is the most common cause of enteritis that can be mentioned: a neglected state of the bowels, causing irritation to be long kept up by the accumulation of fæces in them, is one of the most common causes of enteritis. The severe attacks are often the result of long-continued inflammation. The slight forms of enteritis—gastro-enteritis—are commonly accompanied by diarrhœa. When the inflammation extends to the colon, there is diarrhœa accompanied by a peculiar kind of bloody stools. On the *post-mortem* examination of persons who have died of the acute form of gastro-enteritis, we find various signs of inflammation, according to the especial part affected. Thus, the redness may be diffused, or confined to the punctated or dotted form; or else it may be limited to the follicles, or more particularly to the isolated glands in the duodenum and the ileum, and also in the jejunum. Here, it presents a striated, arborescent appearance, as opposed to diffused redness. Dr. Hope gives a case in which something of the same kind followed the use of tartarized antimony, where the patient took as much as twenty-four grains. It is well to bear in mind the effect of some drugs, and not to use those remedies in such large doses as some adopt. The redness, which is excited by inflammation, is either the striated or punctated form, and occupies chiefly the small intestines. It is seated in the large vessels as well as in the smaller ones, and is often connected with congestion: and, in distinguishing between congestive and inflammatory redness, you are to take into consideration any previous or exciting circumstances which may have occurred. Generally speaking, the redness of congestion is deeper and more diffused than it is in gastro-enteritis. The redness continues long after death; and exposure to the air causes it to assume a sort of bluish-red tint.

Softening is another effect produced by inflammation, excited by the action of poisons. But there is a softening which may be produced independently of inflammation, arising from the action of the gastric juice after death, and, in many instances, I am confident it has been mistaken for the effects of inflammation. This softening is of a chemical character; with the softening of the stomach, there are also found flakes of matter in the intestines, and this is a proof of chemical action going on. Softening may be considered to be inflammatory, where it is accompanied by positive vascular redness, of a punctated or striated appearance, and by ulceration; and if it is accompanied by thickening of the coats, that is another indubitable proof of inflammation. Pus is rarely found between the coats of the intestines and the stomach. Sometimes abscess of an adjoining part makes its way to the stomach; but the intestines and the stomach themselves are but little liable to suppurate. In a few cases, a coating of lymph is found on the lining of the intestinal canal, commonly in young subjects, connected with the aphthous or diphtheritic form of inflammation; this is usually seated in the lower parts of the canal, occasionally in the ileum. I saw a case of this kind in a person who died of scarlatina.

Ulceration is not a common result of the form of gastritis I have been mentioning. Gastro-enteritis is usually a membranous inflammation, and

does not tend to ulceration, which is found more commonly in connection with disease of the glands, occurring in combination with some forms of fever and phthisis. Where, however, obstruction has taken place for some time in the intestines, the parts affected may become ulcerated. These ulcerations present various forms; greatly elevated patches, with depositions of lymph around them. Sometimes, portions of the intestines become sloughy, and under these circumstances perforation takes place. In the ulceration met with in fever, where the follicles become involved, it occurs either separately or else in patches; the glands become affected, frequently, in the form of oval patches. The effects of inflammation occurring in this form, are frequently intussusception and gangrene. It often happens, in connection with enteritis, that one portion of the intestines becomes invaginated within another which embraces it; the effect of this is to produce a sort of strangulation. Both these parts being under the influence of inflammation, it becomes very intense at this spot, and extends even to the serous coat, or peritoneal lining, on which a layer of lymph is deposited. Many cases of this kind have been mistaken for gangrene; when the circulation is obstructed in the intestine, and blood has accumulated in it, it will undergo a change from red to a dark purple, and then to a bluish green, or livid color, so that it presents very much the appearance of gangrene. In some instances, however, gangrene is actually present, and this is manifested by matter working down under the membrane, of an extremely foetid odor. In putrid fever, there is generally discoloration of the intestine, which has often led to its being regarded as gangrenous; therefore, it seems that discoloration may take place to any amount, independently of gangrene. A mode in which enteritis often proves fatal, is by permanent obstruction taking place: the symptoms pass from irritation to those of collapse: the patient becomes more and more feeble, but free from pain, and all the symptoms, so distressing in the first instance, probably subside; the pulse remains in a sinking state, and the patient dies. Sometimes, this occurs from the loss of the vitality of a portion of the intestine, through the intensity of the inflammation.

In the *treatment of gastritis*, we must bear in mind the cause that produces the disease. If it is from poison or improper food, the first indication is to remove this; to neutralize the poison, or to use measures to evacuate the stomach as speedily as possible. In the case of acrid or corrosive poisons, the stomach pump should be used, because it injures the stomach less than any attempts to excite vomiting; and there is this advantage in the use of the stomach pump, that it can be made the means of exhibiting the liquid containing the antidote, and the stomach can be washed out, as it were, by various antidotes adapted to the particular kind of poison. Cold water is generally passed with magnesia or vinegar. After this, will come emetics: sulphate of zinc is better than sulphate of copper, given in a large dose, and with a good deal of liquid, and other matters of a nauseating kind, such as soap mixed up with oil. If the poison has been present some time, you must remember that its removal does not suffice to eradicate the disease; and if gastritis has been the re-

sult, that has to be treated. With regard to the treatment of intense gastritis, if the symptoms are severe, attended with fever, general depletion may be employed, if the patient can bear it. This may be done, even though the pulse may be weak and thready; but in this, as in all other inflammations, general depletion is of less avail the longer it is delayed. And when the patient has become greatly prostrated, depletion not only does not afford any relief, but, on the contrary, produces much greater depression. Local depletion must be considered on a par with general depletion, in gastritis. Leeches in large numbers applied to the stomach, with a large poultice or fomentations, are useful; this may be repeated until the severe pain is relieved. If the sickness is not removed by these means, we may administer hydrocyanic acid, with a little aperient and saline medicine. If the bowels were active previously, one of the best means of removing the sickness, is a pretty large dose of calomel, or two or three doses repeated; from three to six grains of calomel, with the same quantity of extract of conium or henbane, may be given; and this frequently has the effect of removing the sickness and relieving the bowels. Much has been said against this mode of treatment, in consequence of the irritating effect of calomel applied to an inflamed stomach; yet experience proves to us, that the irritation is far less than the relief given. The peculiar effect of calomel, in increasing the secretions, must here be taken into account, as greatly enhancing the value of the remedy, in spite of the irritation which it causes. In order to relieve the feeling of intense thirst, as well as the vomiting, it is useful to give acidulated drinks so as to cool the stomach. The feelings of the patient must guide us in this, for sometimes they increase the pain, and are not advisable. When the bowels have been pretty well opened, it is requisite to evacuate them from time to time, by injections of castor oil, in order to clear out the lower part of the canal. When the severe symptoms of inflammation are subdued, and there is merely some feeling of uneasiness left, particularly after taking drinks or liquids of any kind, a good deal of benefit arises from the use of alkaline or saline solutions with a little hydrocyanic acid, and a small quantity of carbonate of soda. It is necessary, during recovery, to give, from time to time, small doses of mercury to keep up the secretions from the intestinal canal. In cases of intense gastritis, it is necessary to give, not only calomel, but antiphlogistics generally. This is, however, equally necessary in deep-seated enteritis.

In case of gastro-duodenitis with jaundice; after the first inflammatory symptoms are subdued by depletion, it is necessary to remove the hepatic irritation, and the obstruction; for the liver is here generally disordered also. Now, besides local depletion, and mercurials, it is particularly useful to employ antimony, especially James's powder, when the liver is in a state of irritation. It is sometimes even preferable to mercury, which, with some habits, stimulates the liver to too great an extent, and does harm; antimony tends more to restore it to its proper action; mercurials, when given, should be of the mildest form; generally speaking, blue pill and quinine, with James's powder, and mild salines, form the most beneficial combinations.—*London Med. Times.*