SOME POINTS IN THE DIFFERENTIAL DIAGNOSIS OF CHRONIC INDIGESTION.

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Given the disease it is easy to deduce the symptoms which may accompany that particular disease. In the investigation of an individual case the problem must be approached from a different angle, for then it is the symptoms which are known whereas the disease which is the cause of these symptoms is the unknown quantity. Consequently, at the bedside the clinician has first to obtain an accurate and detailed history and then attempt inductively to ascertain the cause or causes which produce these symptoms. Inasmuch as there may be many possible causes for similar symptoms he has to consider the symptoms in detail together with the information gained by examination of the patient and then make a diagnosis by a process of exclusion. When in this way a provisional diagnosis has been made the signs and symptoms should be compared with those usually associated with the disease suspected, to see whether these confirm the provisional diagnosis.

By far the most important symptoms of chronic indigestion are pain and discomfort. It is necessary, therefore, to differentiate between these symptoms, for real pain which is recurrent or constant is almost always due to some organic lesion.

The crucial diagnostic point is the time relation of the discomfort or pain to the ingestion of food. Generally speaking the time of onset of discomfort or pain will fall under one of three categories:—

- (1) The discomfort or pain comes on immediately after food.
- (2) The discomfort or pain comes on from one to three hours after food.
- (3) The discomfort or pain is vague and variable in character and irregular in onset.

1. The onset of pain or discomfort immediately after food is suggestive of gastric atony or intestinal catarrh, the stomach may be dilated, and "stomach splash" may be present for several hours after the ingestion of food or liquids. Vomiting is rare.

2. The discomfort or pain does not come on until from one to three hours after food.—This time relation may occur in hyperacidity, chronic hypersecretion or chronic gastritis. By hyperacidity is meant the condition in which there is a marked increase in the acidity of the gastric contents during the process of digestion. In some cases hyperacidity may be due to an excess of volatile acids but in the majority of cases it is due to an excessive secretion of hydrochloric acid (hyperchlorhydria). Therefore, although not strictly accurate, for clinical purposes hyperacidity and hyperchlorhydria may be regarded as synonymous terms. A positive diagnosis of hyperacidity can be made only by an examination of the gastric contents. A diagnosis from the history may prove erroneous inasmuch as typical symptoms may be present although the gastric acidity is normal or subnormal, and conversely there may be a considerable degree of hyperacidity with complete absence of symptoms.

The term hypersecretion is applied to the condition in which the gastric mucosa continues to secrete gastric juice between as well as during the periods of digestion. Normally the stomach should be empty between meals or at any rate contain only a few cubic centimetres of gastric juice. When more than 20 c.c. of acid gastric juice can be recovered from the fasting stomach, the condition may be regarded as pathological and is designated hypersecretion. It should be remembered that chronic hypersecretion is not a primary disease but a sign only. Almost invariably it is associated with some organic lesion either in the stomach or elsewhere in the abdominal cavity. "Hunger-pain" is a symptom of hypersecretion and is often said to be pathognomonic of duodenal ulcer. This is not true. Hypersecretion is a very common and prominent symptom of duodenal ulcer but it is frequently secondary to appendicular disease, occasionally associated with gastric ulcer or gall stones.

These three conditions, hyperacidity, hypersecretion and chronic gastritis are readily differentiated. In simple hyperacidity, vomiting rarely if ever occurs. In chronic hypersecretion vomiting is often free and the vomit is liquid, acid in reaction and contains free hydrochloric acid. In chronic gastritis, the vomit is scanty, alkaline in reaction, contains undigested food and much tenacious mucus and free hydrochloric acid is not present.

3. The discomfort or pain is vague and variable in character and its time of onset irregular.—Such symptoms may be due to gastropptosis which is usually a part of a general visceroptosis or they may be due to toxæmia from intestinal stasis, the result of a general atony of the intestinal tract or to definite mechanical kinks or bands, or to cholelithiasis. Gastropptosis may be demonstrated by clinical examination or by distending the stomach with air. The existence of intestinal stasis can be confirmed either by an X-ray examination or by a charcoal test.

The causes of the various conditions enumerated above may be tabulated as follows:—

SYMPTOMS.	GASTRIC CONDITION.	POSSIBLE CAUSES.
Pain immediately after food	Gastric Atony	1. Muscular Weakness. 2. Intestinal Stasis.
Pain 1—3 hours after food	(a) Chronic hyperacidity ...	1. Duodenal Ulcer. 2. Gastric Ulcer. 3. Chronic Appendix.
	(b) Chronic hypersecretion	1. Duodenal Ulcer. 2. Chronic Appendix. 3. Gastric Ulcer. 4. Gall Stones.
	(c) Chronic gastritis ...	1. Toxic. 2. Secondary to Carcinoma. 3. Secondary to other diseases.
Pain irregular in its onset	(a) Gastropptosis	
	(b) Stomach not displaced	1. Early Dyspepsia of Gall Stones. 2. Intestinal Stasis.

In the investigation of supposed gastric disorder, diseases elsewhere than in the abdomen may cause difficulty in diagnosis.

1. Muscular Pain.—Fibrositis (muscular rheumatism so-called) affecting the upper part of the recti abdominis muscles may suggest a gastric or duodenal ulcer. There are two points which are helpful in making a differential diagnosis:—

- i. Although the pain of fibrositis may be localised to one spot, for a considerable time, more often than not the pain shifts from one site to another.
- ii. In fibrositis tenderness on pressure is greater when the muscle is in a state of contraction; in intra-abdominal disease the tenderness is greatest on deep pressure with the muscles relaxed.

2. Pain of Spinal Origin.—In tubercle of the spinal vertebræ the posterior roots may be implicated in the disease and give rise to pain referred to the front of the abdomen. Such an occurrence is not uncommon in children, hence the importance of examining the spine in children with chronic abdominal pain.

3. The pain of diaphragmatic pleurisy may be referred to the epigastrium. The increase in the rate of respiration and pain on deep breathing will give the clue to the cause of the pain.

4. Sometimes the pain of gastric crises is mistaken for pain due to indigestion. On several occasions I have undone a gastro-jejunostomy which had been performed in the belief that the patient had a gastric or duodenal ulcer. The pain of gastric crises tends to radiate along the line of the ribs and as a rule, knee jerks are absent and the pupils do not react to light. Occasionally the gastric crises of tabes dorsalis are accompanied by marked vomiting of a periodic character. Large quantities of acid fluid may be brought up and the condition may be diagnosed erroneously as hypersecretion or pyloric stenosis. With care this mistake is easily avoided.

The vomiting of pregnancy is sometimes so severe as to suggest gastric trouble. If the possibility of pregnancy is kept in mind such an error will not be made.

Vomiting due to cerebral disease is sometimes attributed to disorder of the stomach, especially in children. This pitfall may be avoided by examining for evidence of cerebral disease and by bearing in mind that *persistent* vomiting due to gastric disease does not occur in children. Children may suffer from *attacks* of gastric catarrh but rarely from a gastric ulcer or gastric carcinoma.

Vomiting may accompany chronic gastritis secondary to chronic nephritis. In chronic nephritis the digestive disturbance is usually accompanied by anæmia and the discomfort or pain is rarely severe. There may be puffiness of the eyelids and œdema of the ankles, and usually headache is persistent. As a rule the urine contains albumin and casts, and the blood pressure is high. Examination of the optic discs may confirm the diagnosis.

Occasionally patients may give a history suggesting gastric disturbance when the real trouble is urethral obstruction from prostatic enlargement. Occasionally vomiting may be such a prominent symptom that it overshadows the symptoms of the real trouble.

I have seen glaucoma accompanied by such severe vomiting that the seriousness of the eye condition was overlooked.

The moral to be drawn from these possibilities is that in every case of chronic indigestion a complete and thorough examination of the patient should be made.