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Headaches Associated with Gastro-intestinal Disturbances

by

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In an attempt to discuss headache in its association with gastro-intestinal disturbances, one is not confronted with a world of material. Rather, most of material is directed toward headache as a complication of diseases of the nose, eyes, and pathology within the cranium.

Headache is a symptom. The means by which it comes into existence is entirely a matter of theory and the method by which it may be removed is certainly the cause of much controversy. As von Storch has said, "To show a student the difficulties of medical practice, I should give him a headache to treat."

That there is a close relation between the pain that may be felt in the head and gastro-intestinal passage can easily be demonstrated by the fact that to any individual, a large quantity of a cold drink or a cold dish of ice cream may cause him to close his eyes momentarily in pain. It is this close relationship that I have attempted to discuss in the following pages.
INTRODUCTION

The desire and hope of any good doctor is to do good to the patient, and as one listens to the story of the patient, an idea of what may be done for that individual is surely formed.

There are certain groups of cases that have been treated without much expectation of benefit, but nevertheless have been relieved. In this group of cases, lies headaches. They have been regarded as familial, chronic, recurrent, etc., and had little active study or inquiry. In the early days they were "effectively" treated by a few simple medicines and a prayer.

It is usual to treat the diseases and in this manner relieve the symptoms. Headache is a symptom which may arise from different causes and may be a complaint in all branches of medical work. Sometimes the total of its effects are enormous and limit the capacities of the sufferers. At times the headache is so distressing that it fills the whole field and constitutes the disease. (Spriggs 1935).

To anyone who has searched the literature to any degree for enlightenment on the subject of gastrointestinal headache, the following paragraph will appear very familiar.
"Probably in the course of a single day's work there is no symptom which is brought more frequently to the notice of a general practitioner than that of headache. With the greatest regularity he is called upon to treat this symptom, to discover, and if possible to remove the cause from which it springs." (Clarke 1919).

And when these cases are analyzed, the entire group of symptoms is laid upon everything from a hollow tooth to a liver with a capsule that is too small to house the organ. (Heitzman 1917).

Nevertheless, there does exist a definite relationship between headache and gastro-intestinal symptoms. Each one of these cases presents an individual problem and only by complete analysis can any degree of success even be hoped for. Even so, one must give a guarded prognosis in many of these cases, for some of them seem to respond to nothing.
Headaches Associated with Gastro-intestinal Disturbances

Headaches are among the most frequent complaints of human life. They may be so trivial as to attract very little attention, and may be regarded as almost normal, or they may occur so frequently and severely as to interfere with the pleasure of existence and the capacity to do work. "Headache is a complaint so common that remedies for it are disbursed through slot machines and so vaguely understood that most headaches have been attributed by different writers to disorders of the gastro-intestinal tract, to allergic reactions, to diseases of the nose, and with exception, to the eyes. It, therefore, deserving of passing notice." (Woltman 1940).

It is very probable that since man has existed as such, there have been headaches. It was not an uncommon occurrence to find evidences of trephine operations on the mummies of ancient Egypt. It is believed that these were performed to allow the release of foul spirits bound in the bony vault.

Galen began to classify the various types of headaches and put them in order as to their location and to where he thought the pain arose. (Spriggs 1935). There are records of radical operations in the middle
ages for the relief of head pain. One such procedure was the removal of any eye; supposedly to create an avenue of escape for the "toxins".

The causes of headache are very numerous. Barton and Yader (1936) list some of them as eyestrain, constipation, anemia, iritis, glaucoma, allergies, nephritis, meningitis, sinusitis, arteriosclerosis, concussion, tumor and abscess. From this long list of "causes", it can easily be seen that headache may arise from almost any pathological process.

Headache is a condition that has no outward visible characteristics. Knowledge of this condition must come from the patient and due to this fact, there is considerable variation in the facts and one must approach the subject with caution. (Pavey-Smith 1923).

Headache may arise from changes in the pressure on the central nervous system, or it may occur as a result of direct stimulation of sensitive nerve endings. (Chideckel 1939). The sensitive organs responsible for the pain are the vessels of the pia mater and their immediate surroundings, and the larger vessels of the dura mater. Actual observations made during surgery show that the cortical gray mater and the dura itself are insensitive to pain. (Northfield 1938).
The most popular theory at the present time, is that headaches are of **vascular** origin. The pain that presents itself is due to the vasodilatation and the stimulation of the sensitive nerve endings situated upon the vessel wall or in the immediate neighborhood. It is thought that vasoconstriction occurs first, then dilation and congestion.

"In view of the discovery that the intracranial vessels are under the nervous control, the production of headache through reflex action initiates from the various parts of the body, and in the excitement and emotional states, is readily understood upon the basis of a vascular mechanism." (Best and Taylor 1937).

Northfield, in 1938, stated of headache, "In spite of, or perhaps by reason of, its occurrence as a symptom of disease in various parts of the body, the mechanism of its production remains obscure." He also made the following observations about the condition, in actual surgery on the brain and spinal cord under local anesthesia.

He found that headache need not of necessity result from increased intracranial pressure. In fact, as often as not the pain was present when the pressure was normal or subnormal. Also, he showed that, al-
though the dura was not sensitive to pain, by stretching it the patient complained of distress. Actual stimulation of the cortical vessels and the pia mater caused no pain, but the stimulation of the middle meningeal artery did give rise to a painful response.

When a fluid or air was injected for the purpose of a diagnosis, there were varying degrees of pain noted by the patient.

It is quite possible that some toxic substances may induce a headache through a direct action on the blood vessels. However, headache associated with constipation and other intestinal disfunctions is of a reflex rather than a toxic phenomenon. (Best and Taylor 1939). Cleansing the bowels, which gives almost immediate relief, would not do so if this were a toxic action. (Wilbur and French 1939).

There has never been any specific toxin of gastro-intestinal origin that would or could act on the central nervous system and produce headache. The theory of its production might well be on the basis of sensory fiber irritation or vasomotor dysfunction resulting from the changes in pressure. (Browne 1932). Even migraine symptoms that fall into this class and may be explained on the basis of a vasodilatation. (Alverez 1940).
Since the gastro-intestinal symptoms and the headaches, as often as not, occur concurrently, there are only three possibilities. 1: the headache is the result of the disturbances in the abdomen; 2: the gastric complaints are the result of disturbances in the head; and 3: both symptoms are the result of a disturbance elsewhere.

Most of the authorities are inclined to follow the first possibility although the absence of any demonstrable toxin is against this possibility. (Browne 1932). Certain men, however, are firmly convinced that there is a specific substance to cause the condition. (McClure and Huntsinger 1928).

Of the second possibility, one may say that the reflex origin could support it. Since the intestinal tract is under the control of the sympathetic nervous system, disturbances of it could easily give rise to the gastric symptoms. (Laing 1927).

Some systemic disturbance giving rise to both the complaints are exemplified in the infectious diseases such as diptheria, scarlet fever, etc. Since it is possible for the two symptoms to occur in the course of an acute illness, it is not an impossibility for it to be present in some of the chronic conditions. (Hartsook 1940).
William H. Day in his book on headache in 1883 associated gastric disturbances with headache. It was his theory that indigestion or any disturbance in the abdomen sent impulses to the brain by the afferent sympathetic trunk. Normally, these impulses caused no effect on the brain centers, but under some circumstances, would give rise to painful impulses in much the same way as any pain is referred.

In that day, these "dyspeptic headaches" were associated only with irregular habits of eating, drinking and bowel cleansing. Day says of this type of headache, "Dyspeptic headache, also termed sympathetic or sick headache, ...and I think rightly so, because vomiting often dispels the pain like magic, the source of the irritation being so removed.

It is this "source of irritation" and its point of action that has caused most of the disagreement regarding headache. Even to the present day there has been very little added to the subject, and the "source of irritation" still remains an obscure object.

One may get some idea of the lack of advancement made in this phase of medicine by the statement of Burton in 1916, when speaking of the theories of the causation of headache, he says it mechanism is not at
all understood. However, it was his thought that headache was due either to circulatory disturbances of the brain or to the action of toxic substances on the nerve cells that rendered them hypersensitive to changes of circulation.

Burton did recognize headache as merely a symptom and was strongly against treating it until an accurate diagnosis could be made. He stated that in all probability, the cause of the headache was not the same, or even in the same field, in all cases and, therefore, the underlying condition should be sought out and treated.

During the year following, surgery on the abdomen was brought in as a cure for headache and cases presented to show the spectacular results of this procedure. In all of the cases presented, there was found an inflamed appendix, the removal of which relieved the symptoms. (Rosenthal 1918).

In one such case, the patient was found to have severe headaches among her other symptoms. She was operated upon for the removal of a fibroid uterus and on exploration a diseased appendix was discovered. This was removed and upon the recovery of the patient, there was complete cessation of all of the symptoms, headache included. This was purely an accidental phenomenon.
Later a patient with a typical trigeminal neuralgia, and who had been subjected to a great majority of surgical procedures for relief was treated in the same way. This patient did complain, at times, of dull right side pain. At operation, a diseased appendix was found and removed, with complete relief of the symptoms.

Another case with nausea, vomiting and epigastric pain along with weekly headaches, was operated for the removal of a diseased gall bladder. At surgery, this was found to be entirely normal, but the appendix was retro-cecal and extended well up toward the hepatic flexure of the colon and was inflamed. Upon its removal, all of the symptoms subsided, including the headaches.

The other cases were of a similar nature and the conclusion was that, at least, these headaches were due to a toxemia of selective action. The reasoning behind such a procedure was sound; that if tonsils and teeth could give rise to a toxemia or a bacteremia with a far reaching effect, then, surely a hollow viscous containing all types of bacteria could do the same thing on the basis of a neuritis. (Rosenthal 1916).

In commenting on this type of a case, C. H. Elbrecht
made somewhat the same conclusion: That rheumatism, due to a focal infection, which is a protein sensitization phenomenon having affinities for certain nerves, then the headache in these cases might be explained on the same sort of a basis.

Soon after this there were several laboratory procedures introduced to aid in the differential diagnosis of headache. For example, it was found that in some cases on gastric analysis there was either an increased or decreased acidity. Corresponding to the acidity found, either acid or alkali was administered and some (but not all) of the cases of recurrent headache were relieved.

At the same time, by relieving gastric stasis another group of cases of recurrent headache were given relief. (Verbyrke 1918).

In was about this same time that the indican test in urinanalysis was introduced. Verbyrke says of this examination: "We do not cure all of the headaches, nor do we even help some of them, yet we can cure all that come from intestinal absorption, and these cases, more brilliant than others, have been selected to show what can be accomplished and to emphasize the importance of looking for indican as a routine part of every urinan-
Verbyrke also presented some cases to show that by the correction of the diet and a better adjustment to the environment could relieve some of the cases of persistant headache. One such case, that of a woman, who was found to have "gastro-intestinal catarrah, slight putrefactive absorption," and a mild hypothyroidism and in whom any excessive physical or mental exercise would precipitate an attack of headache, was relieved of most of the symptoms by correcting the diet and the hypothyroidism. This patient did have attacks of headache during the menstrual period, however, and these could not be completely relieved, but were lessened in severity.

The same author employed the use of gastro-intestinal antiseptics that could be used to kill off the intestinal flora or at least change it, and in this way do away with the "putrefaction and absorption of these products," and thereby do away with the headache or relieve it to some degree.

The next theory to come to light regarding the intestinal origin of headache was that there was always a prodomal sign of some nature, and that if it could be recognized, it could be used as an indicator
of the oncoming disaster and some method employed to ward off the attack. According to this theory, the mechanism was analogous to an alcoholic intoxication. First, a period of excitement and then a period of intoxication. (Fishbaugh 1923).

It was frequently noted, by careful delving into a patient's history, that on the day preceding the headache the patient felt exceptionally well. That is, the patient might say, "I am dangerously well today;" this corresponding to the period of excitement. Then, on the following day would come the disaster and the headache might well be the only symptom noticed. (Clarke 1919).

Fishbaugh was also a proponent of the toxemia theory of headache. He carried out experiments on the various types of obstruction. He could not, by these experiments, produce a headache by mechanically obstructing the bowel, but in patients complaining of the "constipation headache" accumulation of the waste products did immediately produce the symptoms in the head. He also brought out the fact that a daily bowel movement does not necessarily mean that the patient is not constipated. The only true way to determine the presence of a residue in the bowel is by means of the
However, he advocated the careful observance of the premonitory signs for by the use of laxatives and enemas in this state, the headache will surely be lessened and, in some instances, completely aborted.

All of these cases were medically treated in some manner. There were some cases, however, that could not be remedied by the simple method outlined, and it was necessary to resort to surgical procedures.

One group of headache cases that was supposed to be due to an intoxication from intestinal stasis was found to have a redundant colon as the primary factor in the stasis. Into this group would fall the cases that, even having a bowel movement daily, always had some residue in the colon. There were many operations performed to relieve this condition, the most radical being the complete exterpation of the colon. (Einhorn 1917.)

Less radical and entirely satisfactory were the cases that were treated by an anchoring operation. In this case the patient's only symptom was that of headache and occasional constipation. Medical treatment of all kinds had been tried and failed and in order to give relief it was necessary to open the
abdomen and bind the head of the colon more securely in place, the diagnosis having first been made by the use of the x-ray and barium enema. (Witherbee 1923).

Thus far, all of the theories advanced and all of the work done had assumed that the headache was the result of pathology or disturbances in the abdomen. Obviously, there can be at least two other alternatives; one, that the headache is the primary factor and the gastro-intestinal symptoms are caused by that. The other, that the two symptoms occur simultaneously due to pathology in neither the head or the abdomen.

As to the headache being primary and the abdominal symptoms secondary, one can say that there is very little evidence to support such a theory. Probably the only type of syndrome that could fall into this class would be migraine, and even that carries its doubts. It is possible to have a migraine and have no headache, but with all the abdominal symptoms, which would be against headache as the primary factor. (von Storch 1938). On the other hand, the abdominal symptoms of nausea and vomiting are due to reverse peristalsis which is the result of vagus nerve impulses. These impulses naturally are in the vagus nerve centers
in the medulla and may very well be a part of the primary syndrome. (Alverez 1940).

At any rate, there are more facts available for one to assume that the head and abdominal symptoms are derived from a common cause rather than the head symptoms existing as a primary factor.

Einhorn (1917) pointed out the fact that the inhabitants of mental institutions are chronically constipated individuals and that headache is a frequent symptom among this population. Since these patients all present a nervous instability of some sort, it is quite possible that the two symptoms are the result of a nervous imbalance.

In a great majority of the cases, constipation headache is usually daily and mild, and may be associated with varying degrees of melancholia. The headache is usually bilateral and usually involves the entire head. It is frequently made worse by exercise or by fatigue. (Chideokel 1939).

The etiology of the symptoms in these cases is one of autointoxication. All the organs of the body create waste products as a part of the daily metabolism. Rest is then needed for the removal of these products and if the organism does not voluntarily meet this demand, the state of affairs is automatically changed.
to force the needed rest on the individual. For example, applying this theory to headache: Excessive mental work or strain without adequate rest causes the accumulation of waste products and when this reaches a certain point, an explosion occurs. There is a spasm of the blood vessels supplying the head causing the pain and thus causing the individual to change matters. Usually, this is in the form of rest and the metabolic products can then be disposed of and the individual soon returns to normal. (Einhorn 1917).

Einhorn very much opposed surgery of any kind for the relief of headaches. Rather, he thought that since the liver was the detoxifier of the animal organism, that by stimulating it, it could be made to pour out more of the toxic products of metabolism and therefore relieve the symptoms.

In the treatment of constipation, some inert substance such as agar could be used, and in the extremely nervous type of individual a nerve remedy (bromides) could be employed. In the great majority of cases, these procedures will relieve the headache and the constipation. It is foolish to expect to relieve the headaches by the removal of the colon, when the colon is one means of carrying out the products of metabolism.
in a normal individual. (Forman 1928). As Einhorn stated, "The colon is man's best friend." Of course, an exception to this rule would be the existence of some major pathology such as a tumor.

"Headache is recognized as a symptom frequently resulting from disorder in various parts of the body, the mechanism of the painful sensations and its relation to the primary disorders being quite obscure.

"...when it is observed how frequently headaches and gastro-intestinal disturbances are so closely associated," there must be some cause and effect relationship. Even the patient, when analyzing his own discomforts, is led by reasoning to the association and usually believes that the headache is a result of the disturbance in the gastro-intestinal tract. (Hartsook 1940).

It is here that Hartsook disagrees with the most of the authorities on the subject. That is, "the gastro-intestinal upsets and dysfunctions that precede, accompany, or follow the headache are more like to be an associated disorder than a causative factor."

In the case of "bilious headache," it is only natural to assume that the head pain is secondary; for when the patient reaches the stage of nausea and
vomiting, and brings up bile the headache usually disappears. The train of events is so obvious in these cases that it is almost impossible to make any other interpretation of the fact. (von Storch 1938).

However, to the close observer, it might be noticed that the headache was in existence before the nausea and vomiting and a more logical deduction should be that "the nausea and vomiting are caused by the same etiologic factor as the headache." (Hartsook 1940).

Relative to the theory that the products of digestion and the excretory products contained in the tract, if retained too long, will lead to a "toxic headache," Hartsook believes that the gastro-intestinal relationship of symptoms is secondary to some other factors or to a disturbance in the central nervous system itself. With this in mind, then, there are three possible conclusions:

1. The headache should be considered primary in the central nervous system, and the other symptoms secondary.

2. The disease or toxic state may be outside either the nervous or digestive system.

3. The headache may be a true manifestation of some organic or functional gastro-intestinal disturb-
The problem of this type of headache should require the services of many other specialists before the gastro-enterologists is consulted. (Alverez 1940). This would include the oculist, neurologist, allergist, and syphilologist and the problem would be to rule out any other pathology before the disturbance should be regarded as a purely gastro-intestinal one. (Hartsook 1940).

This having been done, the field is limited to the organic and functional disturbances of the gastro-intestinal tract. Of the organic conditions, the most frequent one is probably a high intestinal obstruction producing alkalosis. Duodenal ulcer, causing pyloric stenosis, lends nicely to an alkalotic state through the use of alkalies used in the treatment of the ulcer. Biliary tract disease may be instrumental in the production of the symptoms due to an alteration in the liver function, especially in so far as its power to absorb and condition the protein molecules. (Hartsook 1940). Cholecystitis and cholelithiasis rarely cause headache, and the removal of a diseased gall bladder does little to relieve the headaches. Usually headaches are less severe when actual liver pathology
does exist. (Alverez 1940).

Achlorhydria may be a conditioning factor in the production of headaches through the anemia and fatigue states that is likely to cause.

The headache that accompanies constipation is classed as one of the functional gastro-intestinal disturbances resulting in head pain. Here, the headache is ascribed to "auto-intoxication" which means very little. More correctly perhaps, the patient is allergic to the end products of digestion or to the bacterial flora of his own intestine. The true answer is more than likely that the headache is a part of a neurogenic disturbance that caused the constipation. (Hartsock 1940).

There is still another type of gastro-intestinal headache and that is one due to liver dysfunction; the only symptom of which may be the attacks of head pain. It is believed that this type is caused by a protein poisoning of some sort, with the actual damage on the liver tissue. (McClure and Huntsinger 1928). Abdominal surgery for this type of complex is, of course, of no value. (Forman 1928).

For the diagnosis of these cases, one must employ some of the liver function tests, such as the Graham test. One must also be careful in the interpretation
of this test because gall bladder surgery will not give any relief from the headaches. (McClure and Huntsinger 1928).

There have been many classifications of all types of headache as to origin, cause and position in the head, but most of these have been advanced to meet the individual requirements of the authors. Probably the most simple, from the viewpoint of the gastro-enterologist, is the following: Headaches occurring with indigestion, those occurring with constipation, and those coincident with chronic gastritis and hunger. (List 1925). This is not a complete classification but since headache is a symptom, it seems only logical to place it in a classification with the other symptoms that are manifested at the same time.

It must be emphasized that when headache occurs with gastro-intestinal symptoms, a great deal of care must be exercised with respect to the abdomen. It would seem that no relief from migraine could be obtained from surgery on the appendix, gall bladder, or colon. Yet, there are many patients that go through one operation after another for the relief of the headache, and as soon as the anesthetic wears off, the symptoms return. (Buchanan 1925).
When a patient presents himself with the combined symptoms of prolonged nausea and vomiting, abdominal pain and headache, the finger does logically point to abdominal pathology but, this is also a part of the migraine syndrome and should always be considered. Still another complex that is more confusing than the typical migraine syndrome, is the "migraine without headache." (McCarthy and Keyes 1934). Invariably, these patients have been subjected to enough abdominal surgery that it alone could cause all their symptoms. (Heitzman 1917).

Simple reflex headaches from the gastro-intestinal tract are relatively easy to cure without the use of surgery. Hyperacidity and hypoacidity may be remedied by the administration of acid or alkali, and constipation may be corrected by diet. No surgical procedure that has been devised will correct the motility of the tract unless there is some definite organic pathology present. (Forman 1928).

It is impossible to tell if a headache is of pure gastro-intestinal origin, but this should always be in the mind of the physician. Should the patient be a woman, probably the attacks will occur during the menstrual period, but by medical treatment, they may be
lessened and those between the periods may be completely stopped. (Verbyrke 1918).

Also an important point in the differential diagnosis, is that a headache, when due to simple intestinal stasis is immediately relieved with a bowel movement. However, should the stasis be due to some mechanical obstruction, there is no relief with the emptying of the bowels. (Forman 1928).

It has been noted that any gastro-intestinal upset may aggravate a migrainous condition existing in a patient, and some have gone so far to state that the migraine does originate in the abdomen. (Browne 1932). Be that as it may, "We know that under normal conditions the motor processes of the gastro-intestinal tract which is under the control of the autonomic nervous system proceed without being registered in the consciousness of the individual." Any outside stimulus may irritate the sympathetic system and this in turn make its showing in the abdomen. With one condition aggravating the other a cycle is soon set up with an increase in the explosions. (Laing 1927).

To break up this cycle of events, one need only to employ the use of correct diet, which should contain many high residue foods. This gives the colon some-
thing to work on, and in most of these cases the headache and the abdominal distress will be relieved. (Chideckel 1939).

Of course, there are some complexes that cannot be cured by medical management but, as stated before, these are usually the ones that have adhesions, tumors, or ulcerations as their basis. Portis in 1930, presented three patients with the syndrome of upper abdominal distress, headache, nausea and vomiting and cured two of them by surgery. The other was an orthopedic problem and was relieved by the proper bracing and padding. These patients were not migraine patients and all were completely relieved by the treatment. This does serve to emphasize the fact that a careful diagnosis is important, before any treatment can be of value.

Headache does accompany organic diseases of the stomach and duodenum, but it is usually not a prominent symptom. In a series of 250 cases of ulcer and newgrowth, only 22 had the symptom of headache. In cases of gastritis and diarrhea, medical treatment relieved all the symptoms; and in some the headache was the only sign of abdominal distress. (Spriggs 1935).

Contrary to the view of Buchanan (1925) and
Forman (1928) Spriggs (1935) presented a case of a man 43 years of age, who had suffered with migraine for a period of 30 years. In a careful physical examination, gall bladder tenderness was elicited and x-ray showed the presence of gall stones. Surgical removal of the gall bladder was of definite benefit to the migraine attacks both in severity and frequency.

Here, the migraine syndrome was doubtless present before the development of the gall stones, but the presence of irritation in the abdomen caused the attacks to be more severe and more often.

In another case of the same type, examination showed the patient to have a gastric ulcer. There was no surgery done, but under the ulcer treatment, all of the symptoms disappeared except the headache. That was definitely benefited by the treatment.

Nausea and vomiting in childhood sometimes causes undue surgery to be done and with no apparent relief. The type of surgery takes in a wide scope of the field and the operations "...varied in magnitude from cerebral decompression and colectomy to circumcision of the clitoris." (Forman 1928). Very frequently there is a history of migraine in this type of case, and should always be a point to look for. Recurrent vomiting of
childhood might well be of the same cause as is migraine in the adult. (Smith 1937). The onset of the true migraine syndrome usually does not occur until about puberty or even later. (Lennox and von Storch 1938).

Smith (1937) also brought out the fact that the same factors that precipitate a headache in adults would cause vomiting in children; namely, excitement, nervous strain, fatigue and the loss of sleep.

From the preceding paragraphs, one can see that the differential diagnosis is not easy. In almost every case that was relieved to any degree, there was other demonstrable pathology, or a condition that could not be regarded as normal.

Little has been said regarding the treatment of the symptoms alone for they are only an indicator of the dysfunction of the organism. It is not good medicine to practice the treatment of symptoms and this should be used only as the last resort. This is the one point on which all of the authorities do agree.

Only in the case of migraine, can one say that it is impossible to find and remove the cause. Even this point carries its doubts as some believe it is a protein sensitization phenomenon (McCarthy and
Keyes 1934) and others believe that it has its origin in the gastro-intestinal tract. (Browne 1932).

Relief of migraine symptoms has been reported by von Storoh (1938) by ligation of the middle meningeal artery and ergotamine tartrate is effective in most of the cases (Alverez 1940) but again that is symptomatic treatment.

To show what a patient may go through for relief and still find it wanting, is effectively demonstrated by the following story related by Heitzman (1917):

"When the patient was young she was taken by her mother to the family physician who prescribed a new medicine at each visit, finally acknowledging his inability to cure the trouble. He consoled her, however, by saying that she would outgrow it, and they would disappear when she married. This statement proved incorrect, for she found that her husband was not a patent pain killer. After the birth of the first baby, ... the doctor discovered a slight laceration and of course, the headaches were reflex. She was curetted and repaired, recovers from the operation, but the headaches come on just the same. The next year she consulted an oculist and after an examination he was certain that all the trouble was due to astigmatism and the "improper implantation" of the muscles, so he decides to plant them over. He did but, ----. One year later another specialist finds floating kidneys, and in spite of the fact that the kidneys always float and the pain comes only twice a month, nevertheless they are anchored. Next Dr. Blank discovers that these headaches come from the liver. ... In this particular case the capsule of the liver had stuck to that organ in the
same way that a veil sticks to your face when it is wet. The doctor shook the sistrum and lifted the veil from the face of the goddess of metabolism. She was ill in bed for a long time after this, recovering from a capital operation. But the cross still remained with her and she now decided to give up doctors and fill her mind with love, the world beautiful, an abstract god and other pain preventives and misery mitigators. This worked splendidly until the first real headache came, and the idolized trinity vanished like the morning mist. Later, a friend who had been cured of cancer after having been given up by all the doctors, prevailed upon her to send for her wonder worker. He came and decided that the spine was dislocated and that the headaches flowed from that. Without an examination he promised to cure her in about forty treatments. This spine proved, however, an obstinate one and forty interviews only served to establish a bowing acquaintance, so forty more were given with no particular effect upon the headache. ... The next attack sent her to a physician that had been recommended to her husband. After a week under his observation and examinations a test breakfast was given, pumped out and analyzed, and behold; instead of being deficient as the other doctors had found her, she had too much acid. ... Finally it was decided that she was the director of a large manufacturing plant situated in her midst engaged in making poison. She was the whole consumer, and of course, the monopoly was not good for her. In fact it gave her headaches. In addition to the green vegetable diet and baked apples, a system of 'irrigation' was established, and the exhibition of intestinal disinfectants. The only result of this treatment was that the patient wished Newton had used all apples for his experiments and that irrigation be confined to the arid regions of the west. "She did not get well."
So, until the mechanism of the production of the symptoms is more fully understood, it becomes necessary to employ all the method of diagnosis in an attempt to uncover the cause and remove it. Should the disease remain obscure, it then becomes a problem of treating the patient and not necessarily the headache or the abdominal symptoms alone. (Forman 1928).

One may wonder why a patient with headache the most prominent symptom should go to a gastro-enterologist in the first place. Usually the patient makes his own diagnosis and places the blame on the liver or the gall bladder or the colon. The patient believes this because he is either constipated, or has nausea and vomiting until bile is brought up or because he has pain in the abdomen coincident with the headache. (Alverez 1940).

Unknown to the patient, when there is actual demonstrable pathology of the stomach, colon, or liver, there is seldom the complaint of headache. (Spriggs 1935).

In conclusion, then, one can say of headache associated with disturbances of the gastro-intestinal tract, that each case has an etiology and a complex of its own. Bearing in mind the possibilities of
a migrainous condition, the approach should be the one that fits the case, be it either medical or surgical and as Forman (1928) has said, "If you can't treat the disease, treat the patient."
SUMMARY

1. A great variety of conditions may cause headache, but mechanism of its production is still a matter of theory. At present, it seems to be generally accepted that the pain is the result of stimulation of the nerve endings of the intracranial vessels.

2. It is a matter of speculation as to whether or not headache is the result of gastro-intestinal dysfunction or whether both symptoms occur simultaneously as a result of dysfunctions of another system.

3. The differential diagnosis is extremely important especially in regards to migraine. It is evident that "one operation after another" cannot hope to cure a condition that has as vague an etiology as does migraine.

4. Treatment is not a matter of relieving the symptoms, but is a definite search for the cause of the symptoms and a proper correction of that cause.
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