Graduation Thesis
by Alexander Reesley
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In the etiology and treatment of chronic gastric ulcer.

With comments on a fatal case illustrating the difficulties sometimes met with in the diagnosis of this disease.
in the etiology and treatment of chronic gastric ulcer, both in the case of a fatal case illustrating the difficulties sometimes met with in the diagnosis of this disease.

Before the time of Cruveilhier and Rokitansky, this interesting affection seems to have been more or less confounded with cancer or acute gastritis, which is the more remarkable since the Perot Mortin lesion is its characteristic. Whilst every large hospital furnishes yearly one or more typical instances of it—e'en to an accurate observer as Audoul (Ann. Med. f., p. 236 et seq.) in the head of Gastrite aigüe, gives three distinct examples of this affection, one of which terminated in perforation and acute peritonitis, in this comment on his case he says "Voici un exemple de ces solutions de continuité de l'atome, que plusieurs auteurs ont décrites sous le nom de perforations aiguës, et qui ne nous semblent être autre chose que le résultat d'une inflammation très aiguë de l'atome".

With regard to the usual designation of this disease Remayer (Pract. Med.) says that though probably always acute in its method of...
formation, it may not inappropriately retain its name of "chronic ulcer," as its duration so frequently extends over some years.

Pathology. - The predisposition to this affection varies according to age, sex, and nature of employment.

Frequency of occurrence.

Jacobi, Kurzleaer Op. cit. p. 575, in 2330 postmortems at the hospital of Prague, found 57 found ulcers and 66 cicatrices, or about one ulcer, or cicatrix, to 20 bodies; this corresponds pretty closely with the statistics of Brinton (Bio. of Men, p. 133) who gives 5 per cent as the average, of Rugby Chambers who places it at from 2 to 3.5 per cent, and of Zimmern (Gen. Chin. Lect. 4th loc. p. 53) who found this disease at Erlangen in 4.55 per cent. Solander, however at the Copenhagen hospital found it in 13 per cent of the cases examined, a much higher estimate than that given by other authors, but as his statistics are only founded on a small number of cases (about 200) there is probably some fallacy connected with them, unless the disease is more prevalent there, than in other countries.
Age

Brunton (of Cit. p. 133) says that the liability of an individual to become the subject of this disease, rises from what is nearly zero at the age of 10, to a high rate, which it maintains through the period of middle life, at the end of which it again ascends to reach its maximum at the extreme age of 90. This statement is based on the record of 226 post mortems to which the age was mentioned.

The returns of Dr. Cuff (Jan. Aug. 5th 1843) based however on a much smaller number of cases, gives from 15 to 30 as the age at which there is the greatest liability to this affection, which undoubtedly agrees more nearly with the result of clinical experience, for this shows it to be more common in adolescence and middle age, the very old and very young being much less liable to it.

Zimmern (Op. Cit. p. 57) considers Brunton's conclusions are drawn from an erroneous basis, as he depends only on the fatal cases, whereas but a small fraction of the patients succumb to the first attack, which the majority attain to middle or advanced
age, either dying from Perforation, or being cured of the ulcer, die of other diseases. With regard to perforation, Blundell (op. cit. p. 145) shows that the average age at which this is liable to occur varies in the two sexes, being at 29 in the female and 42 in the male—there thus seems to be a remarkable predisposition to perforation at this epoch of female life. The same author (p. 153) finds that the average age at which death from hemorrhage takes place is the same in both male and female, being about 43 years.

All statistics agree in showing that this disease is at least twice, if not three times, as prevalent amongst women, as amongst men. In a collection of 53 subjects in whom ulcers or cicatrizes were discovered, 35 were in the female and 18 in the male sex. Blundell (op. cit. p. 133) gives the relative frequency in the two sexes as nearly 2 to 1, but this is a somewhat smaller proportion to the female than the numbers collected by other observers afford. The sex seems also to exercise some influence.
both on the age at which the ulcer appears, and also on the liability to perforation, thus Willich and Miguel in 100 cases of fatal and open ulcers, found in the male only 5 of the cases before 30, whilst before that age in the female upwards of 3 had occurred. That perforation is more common in the female is shown by S. Crisp's tables (loc. cit.) for out of 51 cases of perforation he found 39 were in women and only 12 in men.

With regard to the site of perforation it seems inexplicable that this should in any way affect it, yet Barnet (op. cit. p. 147) from his analysis of 234 cases of perforation found it occurs three or four times as often at the pyloric end in the male, whilst in the female perforation was 5 times as common at the cardiac end. New Richar (N.d. Sept. 2174) lays claim to having first called attention to this singular fact. Though if a sufficiently large number of cases could be obtained it might be found after all to be only an accidental coincidence. My own experience—small though it is—of cases terminating
by this complication, would lead one to believe that however inexplicable the occurrence, it is still a fact—
Shay's from hemorrhage though taking place on the average at about the same age in the
two sexes, is yet paid by Brinton, to be nearly
four times as frequent in the male sex as the female.

\[ \text{Peptic Causes} \]

Little beyond what is merely speculative is known of these. That blows or other injuries
in the epigastric region might cause its cases, hardly be denied, but I cannot find any
cases recorded where such an origin of the
processes was clearly established. The use of
very hot or cold drinks, the abuse of alcohol,
and other errors in diet have been quoted
as predisposing causes, and may possibly
account for this disorder being somewhat
prevalent in cooks—

That ulcer of the stomach is not infrequently
found in connection with tuberculous, being the
food in its vicinity, since, it is well known, but
Brinton and Bamberger agree in stating
that the contrariety is only an accidental
one depending on the relative frequency of
Both complaints - It is however possible that such a constitutional state characterized by a general weakness of blood vessels, giving rise to episcleritis, haemorrhages, &c., might also determine (with or without some slight exciting cause as irritative food, tight-lacing &c.) a local haemorrhage in the stomach itself.

Again chlorosis anaemia and ammoniaria, so common in this affection in young women, at once suggest themselves as having a direct causative influence in producing it, by leading to abnormal states of the walls of the vessels and thus inducing hemorrhages - On the other hand however there can be no doubt, especially in those cases where profuse and frequent hemorrhages are a marked symptom, that these conditions, far from being really causative, are merely secondary to the disease itself.

Many other affections, such as diseases of the heart, liver, syphilis, the superficial state, have been found associated with this disease, but not in numbers sufficient to show anything more than an accidental connexion.
between them.

Here is an affection, or rather accident, which certainly has a direct effect in producing similar lesions, though for the most part they are situated in the duodenum and not in the stomach itself. 

I allude to severe burns. At Holmes in his System of Surgery (vol. 1, p. 733 et seq.) gives several interesting examples of this fact, drawn both from his own labours and those of Mr. Erichsen.

Lastly Weber (Soc. Aut. Lect.) has laid great stress on disorders of ministration, more especially of the viscer-motor systems, as leading to alterations in the circulation in the coats of the stomach, and thus predisposing to this affection.

Frenich also (Göt. Viri. i, 1871) in one of his experiments, found and alacr of the stomach in a cat, whose coeliac axis and phrenic nerves he had previously divided. This case is of course open to the objection that it is only another instance of a post-hoc ergo propter-hoc fallacy, but there can be no doubt that the viscer-motor theory throws a considerable light on the influence of burns in producing these lesions.
The following case is interesting illustrating as it does some of the difficulties frequently surrounding the diagnosis of this disease.

W. P., aged 61, came under my care Nov. 16, 1776, complaining of violent paroxysmal attacks of pain accompanied by sickness.

History: A year and a half ago he was suddenly seized with a sharp cutting pain in the right hypochondrial region, accompanied by vomiting. The pain was so severe as to break his frame and was relieved by pressure, thus lasting off in a few hours, and for some months he enjoyed his usual good health, when he had another similar attack. Since then they have come on increasing in frequency and severity, till he now has them every three or four days. Days he has lost much flesh of late. Never had a days illness in his life before, but has been very inconstant in his habits.

Present Condition.

Patient is a well nourished healthy looking man, he is able to perform confined to bed, having just recovered from one of his neural attacks, which always commences by pain in the right side, relieved by pressure, they are accompanied by copious
Putting up indigestion food, usually lasting 24 hours - and leaving him now very frastate.

 Tongue slightly pucked, occasionally has pain an hour or two after eating, but never immediately. Putting never present except during the attacks of pain. Has never vomited blood, or coffee ground material. Bowels very confined, seldom acting without spiritual medicine. Stools never tarry.

 No tenderness in epigastria region, but a little deep seated pain on firm pressure in right hypochondria region. Liver dulness normal.

 No appearance of jaundice, no tumour or other abnormal growth to be made out on palpation or percussion of abdomen.

 Ordered a mixture containing Bismuth Subnitrate, 1/4 oz. Calomel 3/4, Cinnamon 1/2. B1 at 31. - took five grains of Calomel and Bismuth pill at bed time.

 Progress of Case

 Nov. 18 kpped up, and at work again - no return of pain.

 Takes his food well, and feels better than he has done for weeks past.

 He continued well, without any other symptoms than constipation, which with bismuth was relieved.
until 1 a.m. on the morning of the 24th (10 days after my first visit) when he was suddenly awakened from his sleep by a feeling of something going away, followed by burning pain in his belly, and vomiting of small quantities of highly acid fluid. In my absence a neighbouring practitioner, who had attended him before, was called in, and found him in great pain, apparently suffering from one of his usual attacks of colic—a morphia which was given, being instantly returned, he ordered him Pil opii qz, every three hours.

At 4 p.m. when Edward saw he was lying on his side with his knees drawn up, face pinched and perspiration. He expressed himself as feeling somewhat easier. The abdomen was much distended, tympanitic, extremely tender to the touch, and he could hardly bear the weight of the bed clothes. Temperature 98. Radical pulse could not be felt. Heart sounds extremely feeble and quick, like gurmutus. Mind quite clear, persists in his statement that he felt something go in away at his place (right hypochondrium) where his pain had always started from.
It was now very evident that he was in a state of extreme collapse from acute peritonitis, probably due to rupture of stomach or some other internal organ.

Ordered to continue the opium, to have hot fomentations to abdomen, and hot bottles to feet. De.

He died suddenly at 8 p.m. on the same day four hours after my visit. There's quite clear to the touch.

Post mortem - 18 hours after death - body cold.

Body well nourished, lips moist and full.


No tumour or foreign body noted. While parts in situ. About a pint and a half of blood stained pus in peritoneal cavity. In exploring the left lobe of the liver from the
Stomach, a round cleanly punched hole about the size of a pea was seen in its anterior wall, at the pyloric end, near the lesser curvature. The margins of the opening were intensely congested and lying close to it was a small round black body, resembling on casual inspection a clot of blood, apparently thick and enough to fill the hole. On closer inspection however it proved to be a currant, quite whole, but pulpless and - On inquiring it was ascertained that he had saltnose cake on the day preceding his death. On removing the stomach and lifting it up along its lesser curvature, it was found to be empty, except for a small quantity of highly acid smelling fluid. The cardiac end was firm and soft, being probably a P. Dr. effect. The pylorus considerably thickened admitted of the insertion of the index finger. Close both was a large triangular ulcer measuring from base to apex 1 ½ inch. The base of the ulcer corresponded to the lesser curvature, the ulceration here being shallow but gradually deepening to the apex. Where the perforation existed the coats of the stomach in this situation appeared as though perforicularly
punched through, and one at this point, half an inch in thickness - the edges of the ulcer were everywhere smooth - the shallow surface leading to the point of perforation had a villous appearance, which on section proved to be due to peculiar large vessels ramifying on its surface - there was no change or sign of ulceration in any other part of the stomach.

**Commentary**

The usual symptoms of this disease, as set forth in the different text-books, are pain, vomiting, hemorrhage, and other functional disorders of the digestive system, such as dyspnea, flatulence, feeling of weight at the stomach, constipation, etc.

Brompton (op. cit. p. 128) pays serious notice to the concomitance of all these chief symptoms. We are not entitled to pronounce a decided opinion that the case is one of gastric ulcer, though we may be justified in suspecting its existence.

This is generally placed to be more or less circumscribed, increased by pressure, and in some cases found to be, the fact, that the slightest touch can scarcely be borne; it is frequently almost constant and often described as of a burning burning character.
The situation of the pain is commonly more or less in the median line, in the epigastric region; though in some rare instances it is referred to one or other hypochondria—broad pain, as first pointed out by Cruveilhier, is an almost constant symptom, coming generally a few weeks later than the epigastric pain—food nearly always increases it, especially hot liquids and hard or indigestible substances, and most attacks lay great stress on its occurring immediately after food taken as a valuable diagnostic aid to the nature of the complaint. That acute gastralgia or bacheadian pain, however severe, are necessarily symptomatic of gastria where is well known as they are often found in diseases of the stomach of a very different character—thus about two years ago I had under my care a young lady aged 17, who had for six months suffered from a severe mental shock, her family being found dead by the fire. She complained of recurring pain at the epigastric region on taking the smallest quantity of food and she was almost afraid to eat anything. The tongue was clean, there was great hyperesthesia at the pectoralis
Cordis, the bowels were very confined, and there was troublesome flatulence. The patient was very hysterical and could not sleep at night. Careful regulation of the diet, with sedatives and bismuth, failed to give any relief to the pain—a cure finally resulting from a mixture containing acids, pepercine and true camia; with a choral draught at night to induce sleep, and 5 pps. of Compound Aescapordina pils. When the flatulence was troublesome—Bouquet (Pratit de l'Hypotie, p. 210)—records a somewhat similar case, when the pain and vomiting was so severe as almost to excite suspicion of poisoning; speedy relief following purification of the digestive region.

On the other hand gastralgia may be absent through-out in this affection, two Houseau (Clin. Med. Soc. Inst. Mus. Vol. 14 p. 67) records a case where death took place from repeated attacks of dysentery, extending over a period of three months. Here was an entire absence of epigastric pain or tenderness throughout the case and at the autopsy the diagnosis of cancer was proven to be erroneous; a simple chronic ulcer alone being found near the pylorus.

In the case at present under consideration,
There was scarcely noticeable tenderness on very firm pressure in the right hypochondriac region. This may possibly have been due to the fact that a considerable portion of the substance intervened when the pains were in fita. The panic after food, coming on at too long an interval as "an hour or two" may be explained by the situation of the ulcer at the pylorus, through the duodenum which at once presents itself to this hypothesis, so that small quantities of food are constantly passing out of the stomach, at a very early period after its introduction; and in this case too the panic was only occasional and by no means constant.

With regard to the paroxysmal attacks from which he suffered, there can be no doubt that they were regarded as merely fictitious by the different medical men under whose hands he had passed, and when we take into consideration their sudden occurrence, the violence of the panic relieved by pressure, the absence of haematoma and marked dyspepsia. His turbuence in the intestines, it is difficult to see what other conclusion could
have been noticed at —

In connection with the fact that during these attacks the pain was relieved by pressure, it may be mentioned that Steigl (J. Hein. Schmittt Ueber den Hals und den Thorakalraum, 8. 79) records a somewhat similar case, where the alleviation thus obtained was most marked during paroxysms of a lightheaded character, and suggests that the relief afforded may be due to the restraint thus secured on the movements of the stomach.

2. Vomiting. Stands next, amongst the symptoms of gastric ulcer, in order of frequency. It is rarely absent throughout the whole course of the disease, except perhaps in some of those rapidly perforating ulcers found in young females — it varies much in regard to the time and frequency with which it takes place, from those cases in which the food is expelled immediately after its reception into the stomach to those rare ones in which it occurs only occasionally irrespective of food taken, as for instance that vomiting of yellow fluid at first thing in the morning, so common in habitual drunkards, and probably also due to this cause when it occurs in fastigial ulcers.
In the present instance vomiting had no special relation to food taken and was absent, except during the paroxysmal attacks of pain, which was related above came on at irregular intervals, and were always accompanied by severe and continued vomiting. May not the increasing frequency of these attacks (slightly coming on every three or four days) be explained by an advancing thickening and atrophy of the pyloric orifice, giving rise to retention of food in the stomach, and its acid fermentation?

3. Haemorrhage, either preceded by vomiting or tarry stool, is according to Bannister (Dict. Teach Med. p. 489) the most important symptom in a diaphragm sort of view of this disease. "Pernio" says certain that would otherwise be only conjectural. That his statement, though in the main true, is a little too dogmatic, is proved by several cases given by Diakonov (Op. cit. Hist. p. 283) where haemorrhage was the first and only symptom of cancer of the stomach. It is also present in other affections independently of organic change in this organ, so for its presence he...
Chrosis of the liver, acute gastritis, malignant constitution de de - Its occurrence, however, would at once arouse suspicion, and eventually a diagnosis from the progress of the case would be possible between cancer and gastric ulcer. Even where no appreciable tumour could be detected, a matter by no means always so easy in these latter cases, thus Cuvier himself admits that in some instances, so long as the disease lasts, it can only be formed from the improvement which follows on restricted diet and treatment in ulcer, whilst in cancer the disease advances steadily towards a fatal termination in spite of regimen and treatment.

In other cases where an obvious tumour exists in connection with haemorrhages, errors in diagnosis have occurred. Thus Rousseau (ibid. Vol. ii p. 76) reports an instance in which he prognosticated the existence of cancer from a tumour in the left hypochondrium, which at the post mortem proved to be an abscess of the liver connected with a perforating ulcer of the stomach -

In the above case there was no history of
either hematemesis or melana, but though both may undoubtedly be absent in this disease, it does not follow that hemorrhage never took place during the year and a half the man was ill, for unless vomiting happens to coincide with the hemorrhage, or the attention be always directed to the nature of the stools, a small quantity of blood might frequently pass un-noticed by the patient.

Amongst the chief concomitant disturbances of the digestive system enumerated above, the only one present in this case was constipation, which was of a very obstinate character. The stools rarely moved without purgative medicine—The opposite condition, diarrhoea, is but rarely met with in gastric ulcer, though it is by no means uncommon when the ulcer is situated in the duodenum. The cause of the constipation in this affection seems to be twofold in its nature, in those cases where constant vomiting is a marked symptom, the large portion of the food passes off in this way, and but a small portion finds its way into the intestines at all—Beside this is a kind of general...
torpidity of the whole intestinal tract, probably reflects in its nature, due to the constant pain, which is quite sufficient to account for this symptom, even when the above purely mechanical cause is absent. A few words as to the somewhat singular accident which led to perforation in this case may not be out of place. As a rule this fatal complication is generally directly traceable to a full meal or some mechanical violence, such as coughing, sneezing, concussion of the belly, &c., or as in one of Bernstei's fatal cases it follows the use of strongly purgative medicine. On the other hand, sometimes no startling cause can be found. Thus D., Ross (Jan. 21st, 1771) records a case of a person at the York Stafford Infirmary, who, after presenting all the usual symptoms of pericolic ileus, excepting hemorrhage, was suddenly seized at 2 a.m. during sleep, with symptoms of acute peritonitis, recovery taking place on the 14th day in spite of opinion in a liquid form having been administered. When the agonizing pain, before the exact state of matters was suspected — In the
present instance there can be no doubt that a current, one of some carking which the man had surreptitiously eaten on the previous day, escaped mastication, and becoming impacted in the bottom of the ulcer, then gradually increased, until it pressed upon the already ulcerated coats of the stomach with so force they could not resist, and hence the sudden feeling of something going way, followed by acute pain in the abdomen.

The time indeed was favourable, as far as the chance of recovery was concerned, it being at least 6 or 6 hours after the last meal, and the stomach probably almost if not quite, empty. Unfortunately the medical man who was called did not even recognize the true nature of the case, and by the time I saw him, he was rapidly sinking from shock. Doubtless more power to a constitution already undermined by temperament.

With regard to the Post Mortem these found in this case it differed but little from what is generally observed in this disease. The triangulum, instead of circular, shape of the
Ulcer was probably due to the coalescence of two or more contiguous ulcers. The large vessels seen ramifying on the shallow surface of the ulcer, instead of being a source of danger from hemorrhage, were possibly, from their well-known tendency to show ulceration, so far a protection that they prevented the disease from spreading to a greater depth in this situation.

It is not my purpose in a commentary of this description to enter into the Pathology of Gastric Ulcer, but one cannot avoid mentioning how much our knowledge of this affection is due to the investigations of Kock, and the well-known Experiments of Dr. May (Digest. and its Disorders p. 76 et seq.) on the self-digestion of the stomach during life, after arresting the circulation in a portion or the whole of its walls.

To sum up — the chief difficulties in the way of arriving at a correct diagnosis in this case, as already given in full detail above, were the absence of localized pain, of marked tenderness, of discomfort after food, of bloody vomit or
...very starts, the paroxysmal nature of the attacks, simulating rather those of colic, the intermittent habits and tenuity of the patient to make light of his symptoms, so much so, that though he had often applied for relief to different medical men, during the colicky attacks he never remained for any length of time under observation.

It is a somewhat singular fact, that in a large proportion of the cases which terminate by perforation, the previous diagnosis of ulcer has been made, the disease either running a rapid and entirely latent course, or in a case given by Rousseau—The p. 73—of a young American who, never having had any symptoms of indigestion, suddenly died in such a manner as to excite suspicions of foul play—at the autopsy acute peritonitis from a perforating ulcer was found. In other cases the gastric arrangements have been so slight, that the patients themselves attached but little importance to them, for examples of which I would refer to two cases (reported by T Redwood—Jan 1st, 1878) and also one reported by Mr. Smiley—April 15th, 1871.
Illustrations of this description might be obtained almost indefinitely from the various medical journals, but the above are sufficient to show what great care should be exercised in all cases of tonsillitis. Hypertension must always be overlooked. On the other hand, Bruton's caution that we are not justified in positively diagnosing the existence of gastric ulcer except when a majority of the chief symptoms are present, must not be forgotten, as none of them taken alone can be regarded as pathognomonic of that disease. Thus pain is met with in all the other organic affections of the stomach, such as cancer, inflammation of the mucous membrane, and deeper structures, also in simple functional disturbances, as acidity, irritation from indigestible substances, and in many other affections situated in contiguous parts, such as neuralgia of the abdominal muscles, and deep seated tumors in the epigastric region. It should also be borne in mind (being a possible source of error where the history or previous symptoms have unequivocally pointed to gastric ulcer).
that pain may permanently remain after the healing of an ulcer from the adhesion of the stomach to neighbouring viscera, or from cicatrization leading to contraction of this organ—

Vomiting again may be produced by many and diverse causes, thus by simple irritation from the ingestion of too much food, or food of an unsuitable character; by organic derangements of the stomach, duodenum, or any portion of the alimentary canal; by obstruction in any part of the digestive tract; by reflex action, due to uterine irritation; disease of brain, gall stone or renal colic, and lastly by morbid states of the blood. Hematemesis may be nicarious as in the cessation of hemorrhoidal flux, and during irregularities in menstruation; or due to changes in the blood itself as fever. It is also present in acute jaundice, typhoid infection, and the arrangements of the portal circulation such as occur in cirrhosis of the liver in Cancer of the stomach as a very common source of it; and it has been found in cases of anaemia of the
abdominal vessels communicating with the bowel, as in a very instructive instance recorded by Sartorius (Chir. Med. 1495) where an aneurism of the superior mesenteric opened into the duodenum, giving rise to repeated attacks of hemorrhage, the symptoms closely simulating those of gastric ulcer. With regard to pyrosis, heartburn, acidity, oppression about the epigastrium, anorexia, flatulence and constipation, they are all so commonly found in every variety of dyspepsia that no special diagnostic importance can be attached to them in this disease.

The following case is an example of the harm which not infrequently results (especially where we have to deal with young and hysterical girls) from too dogmatically asserting, on insufficient grounds, that gastric ulcer is present.

Case of Supposed Gastric Ulcer - ? Hysterical Writing

Ellen B., aged 19, came under my care Oct. 26, 75, complaining of constant pictures and epigastric pain coming on immediately after taking food. History of nervous attack.
Has been ill off and on two years, though often free from the pictures for a month or two at a time. Says that the vomits have occasionally contained small quantities of blood. Also that she has lost flesh lately, and that she has been treated for an ulcer in her stomach — never strong but has had no other serious illnesses in her life.

Present Condition

Patient is a short, slightly built woman, once a nourished girl, now being a complete abberation of that form (which one might expect afters long an illness — dark complexion, eyes large and black, but full drooping lids, tongue clean and red — appetite fair. Vomiting comes on immediately after taking food, which also gives her instant pain in the epigastrium region — there is tenderness (though not particularly pronounced) to pressure at pericardial cordis, the patient shrinking away in a very marked manner, almost before she is touched, although when her attention is otherwise engaged she bears from pressure without complaining. There is some slight tenderness in middle dorsal region —
The bowels are very confined and she is much distressed with the idea that she has an ulcer at the stomach. Catarrh commenced at 16 has been irregular, scanty and somewhat painful for a year. Normal formerly, has now some uterine pain especially at the period. There is copious leucorrhoea. Patient does not sleep well at night. Is emotional, laughing and crying on small provocation. Answers questions monosyllabically. Ordered beef tea, milk and soda water and a mixture containing Thr. Opium, nux soda, bicarb. Portland 31½ h.p.5.

Progress of Case
The 25th: Uritis about a pint to a pint and a half in the 24 hours. Ulcerated matters consist chiefly of milk (part coagulated, but greater part unaltered) which on watching her fumes to come up almost before it has had time to reach the stomach, and without the slightest effort at retching. Bowels only confined, had an enema of soap and water. Very other morning 800. The vomiting having increased rather than diminished, she was ordered not to be fed.
take a warming bottle of milk or beef tea every half hour. Also to have supph dry tea 2x2 applied to the painful region, and the following mixture Bismuth Subnitric 15 x . Inf. Morph. Hydrochlor My. Acid Hydrocyanic dil. My. Aegran ad 3y & to
Nov. 24th Patient has not been at all, and there is every reason to suspect that she removed it during the night. Weighed 6 ½ lbs, and 5 lbs more, 6 ½ lbs the last July. To have Luminous. Foot painted on the epigastric region every night as long as she can bear it. Nov. 4th Has not been sick for the last five days - pain much better. Her feet, from oedemia (swell Luminous) to be fed less often.
Nov. 16th Since the intervals between the taking food have been prolonged, and the amount taken on a time increased, the sickness has gradually returned, until it is now almost as bad as at first. She weighs however 6½ lbs, having gained 6 lbs. To be fed again every hour.
Nov. 22nd She is very sick. Her diet, however is not very carefully carried out, and she often sits on the al, when she thinks he me
is observing her, large pieces of bread which are always retained - I do not consider that she must have an ulcer in her stomach which causes the sickness. Nov. 24th Weighs 365 lbs having lost 6 lbs since Nov. 16th. Having exhibited some decided hysterical symptoms since last report, she was ordered to rest, hot baths, Kahl's Comic posy, Palmar. Gunn Tragacant to go to 6 grains at 31/2 lbs. Nov. 25th Sickness worse than ever, this she attributes to the medicine, which she complains tastes strongly of garlic. - Not dissatisfied to have a tepid shower bath every morning, gradually reducing the temperature till the water is nearly cold. 

Mr. 2nd Since the last report she has had the shower baths regularly, and there has been scarcely any sickness since her first bath. The intervals between food have been increased, and for the last few days she has taken a piece of meat without any inconvenience. There is still slight tenderness on pressure at hypogastrical region, but femoral pressure does not seem to aggravate it. Weighs now 64 lbs, a gain of 1/2 lbs. To take her ordinary food.
Dec. 18th There has been no return of the sickness although the baths were discontinued for a few days during the period - takes her food without any discomfort - appetite good - Bowels regular - Considers herself quite well - To continue the shower bath every morning - Weighs 75 lbs having gained 10 lb since she has been under treatment.

Commentary -

Some apology may seem necessary for giving the above case in extenso - but apart from the fact that the treatment was complicated and rendered more difficult, from the notion which had become firmly implanted in the girls mind that she was the subject of an ulcer in her stomach, it affords a good example of one of those cases in which the diagnosis must, for a time, be doubtful, for the cautious physician will ever bear in mind that however strongly the hysterical element may be present, it by no means necessarily excludes the possibility of the con- existence of gastric ulcer - and when we take into consideration the history of slight attacks of homesickness, together with the
physical signs, such as the clean red tongue, the epigastric and dorsal pain increased by food and pressure, the vomiting coming on immediately after food, and the presence of constipation; a rather strong purina face. Case seems to be made out for the existence of this disease —

On the other hand there is a somewhat peculiar about the manner and appearance of hysterical women which seems to recognize than describe; thus to take the present instance, the patient answered generally in monosyllables and seemed conscious of arousing sympathy, the countenance too assumed an aspect of suffering before any real manipulation of the part was commenced, and the least attempt at pressure caused her to shrink away, until by asking questions as to some other symptoms her attention was otherwise engaged. When even firm pressure was borne without any complaint, proving that the pain was really of a superficial nature, possibly situated in the muscles, and resembling that form termed by Brussels, "epigastralgia." The hysterical eye so well described by
Chambers (Proc. Lect. p. 383) was also present, and there was a marked disproportion to be observed between the severity of the symptoms and the general state of the patient, such as the absence of any great degree of association after such a history of protracted vomiting.

The vomiting too in this case was peculiar; it seemed to be rather ascophagial than gastric, the food regurgitating unaltered soon after it was taken, the patient making no apparent effort not to be sick — It strongly recalled to mind that form of sickness found amongst children a few weeks ago, when the milk is forcibly ejected without any retching or attempt at vomiting, immediately after it is swallowed, a condition in them frequently relieved by a few small doses of grey powder.

Refluxness so common in hysterical cases was present —

Reasoning from the above, and bearing in mind that there existed also causes of sympathetic irritation, such as leucorrhoea, irregular menstruation, and uterine pain, which might
possibly account for the vomiting by reflex action, the prognosis was considered favourable and no attempt was made to regulate the diet, other than by reducing it to the simplest and most nutritious food— but when in spite of treatment the vomiting increased rather than diminished, it was considered better to follow Dr. William Hunter's now celebrated maxim (quoted by Perry Storer and his friend p. 104) viz. "to carefully avoid offending a weak stomach, either with the quantity or quality of what is taken down, and yet supply enough retained for supporting life." Food was consequently ordered to be given in small quantities at short intervals, and it is remarkable what a speedy improvement took place. The sickness abating and the patient gaining weight, but when it was attempted to bring her back to her ordinary diet, the old habit of vomiting returned pari passu with the increase in the intervals between the feedings. Thereupon recourse was again had to the same method of giving food, but not this time with like success, probably from the
Difficulty which was experienced in getting the treatment propery carried out. A more decided symptoms of an hysterical character supervening acca fortita was added to the mixture, but with no other effect than that of nauseating the patient. The shower baths however had a twofold result for they at once confirmed the diagnosis and speedily cured the patient.

The treatment of Gastric ulcer may be divided into Zymogen, Dietetic and Medicinal. Of these the first two are by far the most important, the last being of little avail unless made supplementary to the others. The primary indication (as in cases of ulceration of any internal part) is to give rest to the affected organ, but in this particular disease it requires to be general as well as local. General in order to reduce as far as possible any waste of tissue from bodily action, and for this purpose it is necessary to abstain from all unnecessary activity of the voluntary muscular
system, which end is best attained by
suspending the in the horizontal position,
and where the symptoms are at all
urgent, confinement to bed. Locally we
must endeavour to reduce to a minimum
those movements of the stomach which
are constantly taking place during the
period of digestion, as to favour as
far as possible the process of cicatrization.
In order to do this, and at the same time
to maintain the strength of the patient,
food of a highly nutritious and easily
digestible character should be given at
short intervals and in small quantities.
Milk, the food provided by nature for
the young of the mammalia, at once suggests
itself, as combining all these qualities;
it should be given in small quantities,
seldom more than from half a teacup
to a teacupful at a time, and often
repeated. In some cases it may be necessary
to reduce this quantity still further by
its half a teaspoonful or even a teaspoonful
at a time, it is then better, if possible, to
have one person whose sole duty it is
to supplement the giving food. The intervals should be short, according to the quantity taken at a time, never longer than two or three hours, and in some cases very twenty minutes or half hour. The patient should also be awakened two or three times or oftener during the night to take food. When milk is not well borne, leucine water, soda water, or a little bicarbonate of soda, may be added to it, or the plain milk recommended by some German authors. The addition of bismuth, powder, arrow root, or corn flour, renders the milk more palatable and prevents its coagulation into hard masses in the stomach. In some cases, however, milk in any form disagrees and increases the sickness; in others, after a time the patient acquires a great aversion to it, and again in others the nourishment so obtained hardly seems to be sufficient, and great emaciation results. Under these circumstances beef-tea, chicken broth, sarsaparilla, wine, jellies, arrow root extract, etc., may all be tried, given in similar small quantities and of course cold.
As the chief symptoms subside, and the patient progresses towards convalescence, the amount of food given at a time may be increased, the intervals between the feedings prolonged, and greater variety introduced into the diet: thus lightly boiled eggs, eggs maccaroni, rice and other farinaceous puddings may be allowed; also state or toasted bread, fish, chicken, and after a time meat. Where stimulants are required small quantities of whiskey, brandy, claret or burgundy may be given, in small quantities and rarely diluted. Soon after the cure is apparently complete it is necessary to advise great caution in diet, tea and coffee should be but sparingly partaken of, and very hot liquids, cigar, pastry, cheese &c. should be avoided.

Amongst medical agents bisulphate of soda occupies a very prominent position. In the fatal case above recorded the relief which followed a mixture containing this drug (the man expressing himself, as not having felt as well for weeks past) would prove, were any such proof required, its undoubted
efficacy in this disease - it less the
pain, checks the vomiting, produces, and
enables the stomach more readily to
terminate food - the best form is probably
the subnitrate, it may be given in doses
of 20 to 20 grs. or upwards, alone or milk,
to combine with a little pulverized
or
of morphia - in some cases, where
brine fails to give relief, the nitrate
of silver may be found more beneficial.
The way in which this salt acts has been
much disputed, some authors stating that
its therapeutical value is due to its topical
application, in the same manner as when
used as an external force, others, like
Brinton, hold that this can hardly be
the case, as from the smallness of the dose
(4 to 1 gr) it would be soon neutralized
of the stomach, and converted
into an insoluble chlorides, but an
infinitesimal portion remaining to have
any local effect. However, this may be
practical experience shows that it has
not only a powerful, but also a beneficial
Influence in many of these cases, although certainty as a rule an inferior one to that of the substratum of bismuth— and the fact that the prolonged administration of it leads to permanent discoloration of the skin would strongly militate against the theory that much of it is converted into insoluble chlorides.

In Germany, of late years, Falsch, Appolga, Kaimayer, and Zissmuss have insisted upon the efficiency of the Karlsbad waters (which consist for the most part of the sulphate, carbonate and chloride of soda) in the treatment of this disease. The latter holds that it is far superior to the waters of bismuth and silver, and that it is a mistake to suppose the natural waters are alone beneficial, for the above salts mixed in proper proportions (as in the artificial Karlsbad salts) are equally efficacious.

Their action is supposed to be threefold, that they neutralize the normal or abnormal acids of the stomach; they prevent the acid fermentation of the contents of that organ, and they provide for a daily regular emptying.
into the intestine of all that the stomach contains." Omitting hence as reference of this method of treatment the disease, but when acidity is a prominent symptom I should be inclined to try it; and I cannot help thinking that in many cases a teaspoonful of the artificial pellet might advantageously be given in the morning, so as to ensure a daily evacuation of the bowels.

Of course the different special complications by any given disease would have to be treated as they arose. Thus if the pain is very severe counter irritation by mustard plasters, turpentine plasters, and hot hydrocyanic injection, if morphine must be resorted to, by a small blister may be made in the epigastria region by means of ammonia and morphine dusted over it. When vomiting is troublesome the diet, as detailed above, must be restricted to the narrowest possible limits, ice should be sucked and the carbonates of soda or potassium hydrocyanic acid administered.

In some cases however it will be better
to suspend for a time the taking anything by the mouth, nourishment and medicine being given by means of stomach tubes. In hemorrhage the various styptics must be tried. Amongst the most reliable of which are acetate of lead, gallic acid, salicylic acid, tincture of ipecac, tannic, the acetate of perchloride of iron in large doses, and ipecac hypodermically. Small lumps of ice should be swallowed, and in severe cases an ice bag should be applied to the epigastric region. Where collapse from loss of blood is marked stimulants may be administered by enema, and if practicable transfusion should be tried. In future when perforation has occurred, I should be inclined to rely on hypodermic injections of morphia, hot fomentations and cataplasmes locally, nutrient stomachs, and during the stage of collapse brandy administered in the same way. I do not give some solid opinion by the mouth for the first 48 hours—hoping it shall be inclined to follow the
advice of Professor Temsman (from Gh. Leb. 167) was recommended with champagne as a restorative under these circumstances, and the application of a large bladder of ice to combat the peritonitis, the weight of which one might think could hardly be borne by an acutely inflamed peritonitis seen in Germany. Whatever allowance we may be disposed to make for difference 

When convalescence has advanced and the patient is beginning to take a less restricted diet we should attend to the general state of health, and where anaemia or chlorosis is well marked the various preparations of iron will be found of value, and perhaps for this purpose, one or other of the mild hemoglobin-preparations will agree best, such as

In conclusion I may state that I have endeavored to discuss as concisely as is
compatible with efficiency the etiology and treatment of this important affection, and with regard to the diagnosis (which in many cases is so simple that the wisest tyro could hardly fail) I have endeavoured to point out that in attempting to avoid hysteria we should not fall into Charybdis, or in other words while taking every care not to overlook a case of this disease because some of the more prominent symptoms are absent, we cannot be too guarded lest we fall into the opposite error in supposing that every case of gastralgia, cardialgia, or hysterical vomiting is one of gastric ulcer; a mistake which I believe before now has been fraught with the most disastrous consequences, for though Brugel (Traité de l'Hystérie 1539) holds that hysterical vomiting is not dangerous, other authors, such as Audrèl (Chir. Med 175-180), have recorded several fatal cases in which nothing could be found at the post mortem to account for the persistent sickness, although some local organic lesion had been confidently
looked for —

Cf. 23rd 1077