Remarks

ON THE

TREATMENT OF GASTRIC ULCER BY IMMEDIATE FEEDING.*

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IN December, 1906, in a discussion at the Medico-Chirurgical Society,¹ and in the following year in the *Clinical Journal*,² I mentioned the favourable results which had followed the use of the Lenhartz method of treatment of ulcer of the stomach in a few cases under my care. Since then I have had the opportunity of observing more cases treated in this way, and propose this evening to lay the results before you. The cases here reported were unselected, of the ordinary types met with in hospital practice. For the purpose of comparison, a similar number of other cases, taken consecutively from the records of St. George's Hospital during the same period, are tabulated with them.

The essential features of Professor Lenhartz's treatment are:

(1) Complete rest in bed for four weeks; (2) feeding the patient from the beginning of the attack with small quantities of beaten-up egg and milk, the quantities being increased daily; (3) the application of an icebag to the epigastrium; (4) adding to the dietary boiled rice, mince, and other semisolid and solid foods after the first week; (5) the administration of bismuth and iron in suitable form. Of these, the complete rest in bed, the bismuth and iron, and the icebag are commonly advised by physicians; but the plan of allowing food to be put into the ulcerated stomach at the beginning of treatment is contrary to the usual practice.

The method is founded on the view that acid gastric juice delays the healing of an ulcer, even when no food at all is given by the mouth; and that the reparative process cannot proceed satisfactorily in an ill-nourished and anaemic person, such as the subject of this malady commonly is. Experimental researches are quoted in support of each of these propositions.

That the acid juice will irritate an open sore every one will agree. Mathes produced artificial lesions of the gastric mucous membrane in animals, and found that they healed rapidly except when exposed to the action of dilute hydrochloric acid. This result appears to show that healing was not delayed by the presence of a normal amount of acid but of an excess. In the subjects of gastric ulcer, however, it is the general opinion that the normal gastric juice, if secreted, will act prejudicially, and the treatment by nutrient enemata is intended to prevent the secretion of juice which appears when food is introduced into the stomach. But it must be remembered that gastric juice also flows on the thought of food in a hungry person, and it has been stated by Bourget, Winternitz, and Umber that when a nutrient enema is given a flow of gastric juice is excited, and pain is felt in the stomach. Ewald and Michael, however, were not able to confirm the occurrence of secretion. Pain is certainly felt by many patients, and is often referred to the stomach, though in some cases it may arise in the colon. Obviously, if either the thought of food or the irritation of an ulcer may be followed by a flow of juice, ~~hard~~ may be done, for the juice will flow over the raw surface, which is unprotected by the normal mucous membrane.

The second point—namely, that the reparative process cannot proceed so well in an ill-nourished and anaemic person—is self-evident; it is also clear that even if the patient is, as the subjects of gastric ulcer sometimes are, fairly nourished at the beginning of the attack, the treatment by saline injections and nutrient enemata will be followed by wasting, for all who have studied the subject of rectal feeding by means of accurate metabolism experiments are agreed that, although some energy may

be furnished in this way, nevertheless sufficient food to maintain the needs of the body cannot be supplied. Still less is the anaemia from which these patients suffer likely to improve on such a dietary. Quincke and Daettwyler, found that ulcers which healed quickly in normal dogs did not in those rendered anaemic. If food can be introduced into the stomach from the beginning, the recovery from the anaemic condition is likely to be more rapid than if the patient is subjected to a further period of subnutrition.

The objection to immediate feeding by the mouth is that work is thereby thrown upon a diseased organ which, it might be thought on rational principles, should be given a complete rest. Further, it is urged that the presence of food in the stomach necessitates the contraction of that viscus, to pass it on into the duodenum, and that such movement of the stomach walls is likely to dislodge a clot in an opened vessel and cause a recurrence of haemorrhage. To this Lenhartz replies that the danger of a clot becoming dislodged in this way is no greater than the danger of its being dissolved by gastric juice in an empty stomach, whilst if small quantities of protein food are supplied the hydrochloric acid of any gastric juice poured out is neutralized, because it combines with the protein. To this end teaspoonful doses of beaten-up egg and milk are prescribed. Egg albumen rapidly forms a combination with hydrochloric acid. Milk is a food that calls forth less secretive activity in the stomach than any other food. Fat, which is present in the yolk of an egg, is known to inhibit the secretion of juice. So that the particular combination of foods used is that calculated to excite the least possible secretion and to combine most efficiently with the acid of whatever juice is secreted. As it is given in very small quantities at a time, distension of the stomach is obviated and the necessary movements reduced to a minimum. It is probable that distension of the stomach is far more harmful to an ulcer than contraction. The food is swallowed and requires no mastication, and this again keeps the gastric secretion low, for the act of chewing is accompanied by a production of juice.

An icebag placed upon the epigastrium is intended to keep the stomach in a quiescent state. The application of cold has been observed by Rossbach³ to diminish the movements of the stomach. By promoting atonic constriction of the walls, gaseous distension, which might be a cause of haemorrhage, would be prevented. An icebag also relieves pain when present.

The routine of the Lenhartz method is as follows:⁴ The patient is kept absolutely in bed for four weeks, for the first two of which she is not allowed to move from the supine position for any reason whatever. All mental excitement must be avoided. An icebag is kept upon the stomach almost continually for the first two weeks. The dietary consists of eggs beaten up with sugar, or in some cases with wine, and iced; and of milk. These two foods are taken in small quantities at frequent intervals from a teaspoon, the quantity prescribed being spread over the day, and not given at definite meal times. The first day 7 to 10 oz. of milk are given and one egg. The quantity is increased daily by 3½ oz. of milk and one egg until 1½ pints of milk and six eggs, or in some cases eight eggs, are reached. From about the third to the eighth day raw or almost raw mince is added, starting with an ounce in divided doses, either beaten up with the egg or alone; the next day, if the mince is well borne, 2 oz. are given; in these cases minced beef was used.

From the seventh to the eighth day boiled rice is added, followed by softened bread and later by a small quantity of bread and butter. One or more eggs may now be lightly boiled. The diet is then gradually increased by the addition of mince or pounded fish, with a corresponding reduction of eggs, until by the end of the fourth week the patient is on an ordinary mixed diet containing the common foodstuffs with the exception of indigestible solids such as peas or other seeds. The patient is instructed to masticate very slowly. On the twenty-eighth day the patient is allowed to get up, and discharged from the sixth to the tenth week.

For the first ten days bismuth subnitrate is given in doses of 30 grains in water without mucilage twice or three times a day. In these cases, however, the carbonate or the oxychloride was used. From the sixth to the

* Read before the Royal Society of Medicine.

tenth day sulphate of iron is prescribed in the following form:

Sulphate of iron ...	...	150 grains
Calcined magnesia...	...	20 grains
Glycerine ...	...	1 drachm

Mix and divide into 60 pills.

Two of these are given two or three times a day. Lenhartz increases the dose gradually, giving three for three days, four for four days, up to ten for ten days, and then down again. In some cases arsenic is added. The bowels are not disturbed at all during the first week unless they are naturally opened. An enema is then given and repeated every fourth day during treatment. The mouth should be washed out and attended to regularly.

In my own cases I have usually begun with 3½ oz. of milk and one egg on the first day, and have seldom given the iron pill more than three times a day.

It is claimed for the Lenhartz method that it is suitable for all forms of gastric ulcer except, of course, those associated with mechanical deformities, such as stenosis of the pylorus, and those in which some serious complication, such as perforation, peritonitis, or subphrenic abscess, is present. It is said that the sour regurgitation, the vomiting, and the pains and distress after food disappear in from a few hours to a few days. The method is reported as having been found successful after recurrent hæmorrhages have occurred on rectal feeding.

The diet introduces an amount of food which soon becomes adequate to the needs of the body. A table is given by Lenhartz in which the calories given per diem are shown to reach nearly 1,600 on the seventh day, and 2,500 on the tenth. The actual figures for the first fourteen days are: 280, 420, 637, 777, 956, 1,135, 1,588, 1,721, 2,138, 2,478, 2,941, 2,941, 3,007, 3,073 calories.

It is important that patients should be kept in hospital some weeks after they have reached full diet, for a case cannot be recorded as cured until not only are there no symptoms, but the percentage of hæmoglobin and the weight are normal. Unfortunately it is difficult to keep the average hospital patient in after all symptoms have subsided.

Before attempting a new method it is necessary to ask whether the old is unsatisfactory. There is no doubt that the recognized method of treatment is in many cases extremely successful. It has, however, some serious disadvantages. In the first place, severe cases are subjected to a considerable period of starvation or semistarvation, and the less successful the treatment is the longer is the starvation period extended. The routine when fully carried out is extremely tedious. Dr. Hawkins⁵ describes for instance, a course in which four weeks after admission the patient is having only milk, plasmon, arrow-root, and thin bread and butter. Fish and chicken are started six weeks after the mouth-feeding has begun. There has been, however, distinct reaction among physicians against this extended period. During the stage of enemas the mouth may become very foul in spite of careful washing out, and parotitis has occurred (Rolleston and Tebbs⁷). Vomiting may be very troublesome in some cases, and it is interesting to note that Drs. Rolleston and Jex-Blake¹⁵ found in one case that on cautiously dieting with solid food and withdrawing the enemas it ceased. The prolonged period of subnutrition is accompanied by considerable acidosis, as evidenced by the excretion of diacetic acid in the urine, as Dr. Rolleston has shown, but stronger than even these objections is the unpleasantness of rectal feeding. In hospital practice this is not such an important point, although the patients and the nurses will take a view very different to that of the physician, who has nothing to do with the actual carrying out of the treatment. In private practice, however, the case is different. Even if the Lenhartz method is not superior to the ordinary method, if it is equally good and not less safe it will prove a boon both to the doctor and the patient when treatment is being carried out at home, where rectal medication is nearly always objected to, and very often inefficiently administered.

The present paper is based upon the details of 33 cases treated by the Lenhartz method, and 34 treated by the ordinary methods. I am indebted to my senior colleagues, Drs. Rolleston, Ogle, and Latham, for permis-

sion to publish such cases as were not under my care, or were only under my care for a part of their stay in the hospital. The cases were taken *seriatim* and, with the exceptions mentioned below, not specially chosen. The 34 cases treated by other methods are taken consecutively from the hospital records. The exceptions that have been made in both series are those of patients in whom the diagnosis was, in my opinion, doubtful, on the one hand, because the symptoms were not severe enough to justify the diagnosis of ulcer, or, on the other, cases which were thought or proved to be due to carcinoma; and cases severely complicated by other diseases not directly connected with the gastric disease. A few cases have also been omitted in which the patients were treated by immediate feeding, but in a manner widely different to that advocated by Lenhartz. Some of these did well and some badly, but it would be difficult to decide in which series to put them. Five cases, however, are included in the second series in which there were no rectal injections, either saline or nutrient. On the whole, the two series may be taken as similar to one another in type and in severity.

Both series contain examples of the common accompaniments of gastric ulcer—namely, anaemia, carious teeth, and neurosis. The Lenhartz series includes 1 case with albuminuria and 1 with chronic alcoholism. The second series contains 1 patient with ulcer of the leg, 1 three months pregnant, and 1 with uterine displacement.

In considering the advisability of adopting the treatment by immediate feeding, the first question raised will be, Is it dangerous? Is there a greater risk of the recurrence of hæmorrhage and perforation than by the usual method of nutrient enemas followed by a graduated milk diet? In the above cases in the first series twenty-five of the patients had *hæmatemesis* in the attack for which they were admitted, and one had had it in a previous attack. In the 25 cases there was one recurrence on the third day of treatment. The patient was not under my care, and the method was not being rigidly followed, inasmuch as no icebag was prescribed and the patient had moved from the recumbent position when the hæmorrhage recurred. The feeding was discontinued, the patient being put upon nutrient enemas, and a good recovery was made. In the 34 cases treated by other methods, 29 suffered from hæmorrhage in the attack for which they were admitted. There were four recurrences, two on the second and two on the third day. In one case there was bleeding on both the second and third day. As far, then, as these figures go the danger of hæmorrhage is certainly not greater, and apparently less, upon the Lenhartz diet, for hæmorrhage recurred in 4 per cent. of the cases on this diet and in 14 per cent. of the others. In 150 cases with recent hæmorrhage treated by Lenhartz there was recurrence in 10 per cent., whilst in 120 such cases treated by Wirsing with nutrient enemas the bleeding recurred in 18 per cent.

It may be objected that some of these cases were not cases of ulcer but of gastrostaxis, described by Dr. Hale White. This criticism, however, will apply equally to cases in both tables. The researches of Drs. S. Martin, C. H. Miller, and others indicate that the pathology of gastrostaxis and of gastric ulcer is identical, for each appears to arise in a mass of lymphoid tissue. Lymphoid tissue is more abundant in the stomachs of those who are subjects of dyspepsia; the absorption of irritating material from the stomach may cause a breaking down of the follicle, and through the action of the gastric juice an ulcer may result. We know that in the small intestine also the lymphoid patches are the most vulnerable areas. Dr. Hale White has demonstrated that symptoms formerly thought to be definitely indicative of an ulcer may arise from a minute fissure or a group of bleeding spots. These bleeding spots, however, are found frequently in that region of the stomach most prone to ulceration, and it is difficult to say that a group of such small lesions is not an early stage of an ulcer.

We may next consider the question of *pain*. On the Lenhartz diet the usual result is for pain to vanish entirely within forty-eight hours of the commencement of the treatment, and the diet is so graduated that the risk of recurrence of pain when solid food begins to be taken is, in my experience, less than that of the ordinary method of treatment, in which it is a common thing to

find the patient do well until the attempt is made to take fish or mince.

In the 33 cases treated by the Lenhartz method, in 8 cases pain is mentioned in the notes after the seventh day; 3 of these were transient recurrences; 1 was an extremely neurotic patient who appears in both series, and on both methods of treatment complained of pain during most of her stay in hospital, and another was the subject of nephritis. In 3 other of the 33 cases pain was complained of after the first week.

In the 34 cases treated by other methods, in 11 pain is recorded after the first week; 2 of these were neurotic women, one being the above-mentioned case; in 2 others haemorrhage had recurred; 1 was a patient upon whom gastro-enterostomy had been performed; and there were 6 others about whom no special note need be made except that the pain persisted. In this respect, therefore, the advantage again seems to lie with the Lenhartz treatment.

In none of the cases on this diet was it found necessary to give opium in any form. In one neurotic subject the pain complained of disappeared after the application of a blister.

Weight.—Of the patients on the diet who were weighed on entering the hospital, 8 put on an average of 4.2 lb. each, whilst 6 lost an average of 3.5 lb. each. The figures are of little value, however, as they do not reckon the increase of weight which took place at the convalescent hospital. Of the patients who lost weight, one was a patient who had nephritis, in whom the diet could not be fully carried out, and who lost 6 lb., and another was a case who yielded to neither method of medical treatment nor to operation.

Parotitis is liable to occur in patients being fed by the rectum, even when the greatest care is taken to wash out the mouth with cleansing fluid. It is recorded in 2 of the 34 cases treated by the other methods, but in none of those upon the Lenhartz diet.

The figures are too small to judge of the *mortality*, but it will be seen that no case died upon the Lenhartz diet.* There was one death among the other cases.

The *length of stay in hospital* averages thirty-four days in both sets of cases. In this connexion it must be noted that many patients are sent from St. George's Hospital to the convalescent hospital at Wimbledon at a much earlier date than it would be possible to send them to their homes. This figure, therefore, cannot be compared with hospitals not having a convalescent branch of their own near at hand. Cases of gastric ulcer do uniformly well at the convalescent hospital, and almost invariably put on several pounds weight. Fourteen of each series were sent to Wimbledon at the end of their stay in the hospital.

Especially instructive is the comparison of the *number of days in the two sets of cases before the patient reached a diet containing meat or fish*. Among the patients treated on the Lenhartz system, 14 were upon the ordinary diet of the hospital, containing meat, fish, and potatoes, before leaving, the average time taken to reach this standard being thirty days; 11 cases left the hospital on a fish diet, which includes potatoes, having reached this diet in an average of twenty days from the commencement of treatment; 6 other cases were taking fish, but not the full fish diet, when they left the hospital. In the 34 control cases the result is very different; only 4 cases took the full ordinary diet before leaving the hospital, having reached this stage in an average of twenty-three days; the majority (namely, 22 patients) did not reach the stage of meat, leaving the hospital on a fish diet, which they reached in an average of twenty-two days after admission; 7 others were taking fish, but not the full fish diet. The average period before taking fish in these cases was seventeen days. From a consideration of these figures it is evident that the Lenhartz method of feeding enables the patient to take an ordinary diet without pain in a shorter time than treatment by nutrient enemata and a graduated milk diet.

In two of the cases in the first series, and two in the second, resort was had to *gastro-enterostomy*, which should be performed when medical treatment has repeatedly

failed. In one further case in the first series the operation has just been done on my advice in a quiescent interval, as, although the patient responds excellently to medical treatment, she has had several recurrences. A small ulcer was found on the lesser curvature, adherent to an indurated area of pancreas.

It is important to bear in mind that the medical treatment of this disease should be carried out with as much care and precision as is required for surgical treatment. If this be done it will be found to be more efficient than many surgeons appear to think. As I have pointed out elsewhere, any patient who has been treated on milk or upon nutrient enemata, and has not recovered, is regarded by some as a fit subject for surgical operation. Whilst not minimizing the beneficial results of gastro-enterostomy in intractable cases, it must be pointed out that this operation is not an infallible cure for gastric ulcer. In the present small series it will be noted that three of the patients reapplied for treatment after this operation had been performed; another reports that she is still suffering from pain and vomiting. I have also seen a number of others in the out-patient department and elsewhere with recurrence of symptoms. Whether cases of gastric ulcer are operated upon or efficiently treated medically, the majority, for the time being, do extremely well, and the mortality from the disease in nearly all the published series of cases is extremely low. Gastro-enterostomy is not a dangerous operation under ordinary circumstances, but, as Paterson has shown, it is a dangerous operation when performed for haemorrhage. I believe, therefore, that this operation should be done only—first, in cases which, after prolonged medical treatment, do not yield; and secondly, in cases which, having been repeatedly treated by medical means, recur. Perforation and mechanical deformities of the stomach must, of course, be treated surgically.

It will be seen in the tables that in many cases the diet was not carried through in its entirety. My own impression is that the more thoroughly the treatment was applied the better the results; but I need hardly add that no physician will treat even the commonest complaints by rule of thumb, or will have any hesitation in modifying the prescribed formula when it seems best to do so. I have found, however, in the patients under my own care, that the need of such modification is the exception rather than the rule. To a few patients the diet is objectionable. Some prefer the egg and milk mixed, and some alternate teaspoonfuls of milk and of beaten-up egg with sugar. The addition of a little wine to the egg is also recommended, but I have not found this necessary. If the beaten-up egg excites nausea to the point of vomiting, egg-white without the yolk may be used. Instances are reported, and similar ones have come under my own notice, in which, in spite of a strong dislike to the food in the first few days, excellent progress has been made. As a general rule, the patients are comfortable and happy and appreciative of the relief afforded them.

As regards the *subsequent history* of the patients, I have been able, through the lady almoner of the hospital, to hear from 21 of the first series and 16 of the second.

Of the 21 patients treated by the Lenhartz method who have been traced, 9 have been well since leaving the hospital, 9 have had a return of the symptoms of gastric ulcer, and 3 suffer from indigestion.

Of the 16 patients traced who were treated by the usual method, 6 have been well since leaving the hospital, 8 have had a return of the symptoms of gastric ulcer, and 2 suffer from indigestion.

The two series are not absolutely comparable in this respect, for ten months longer has elapsed since the last patient in the second series left the hospital than is the case in the first. As the figures stand, however, we may conclude that the results of the Lenhartz method are at least as durable as those of treatment by nutrient enemata and a graduated milk diet.

The frequency of recurrence in each series is to be attributed partly to the difficulty of keeping hospital patients under treatment long enough. Unfortunately if the patient return to the old conditions an ulcer is liable to recur after either medical or surgical treatment.

A few statistics and criticisms of the Lenhartz method have been published.

Wagner,⁶ in 1904, reported 60 cases, in 35 of which there was no pain from the beginning, and in only 6 did pain last beyond

* Since writing the above I have seen a case in which an extensive chronic ulcer in an elderly woman perforated while under a modified Lenhartz treatment, with a fatal result. The patient had left St. George's Hospital free from pain after this treatment, a fortnight before, but relapsed. The perforation was undiagnosed.

the first week of treatment. In 1 case the pain continued during the whole stay in hospital.

Haberman⁴ reported that, in 1906, 135 cases had been treated by Professor Lenhartz in Hamburg, with 3 deaths, each of these fatal cases being very severe or complicated. A recurrence of haemorrhage took place in 8 per cent., as compared with 20 per cent. in 100 cases treated by the old method. Most were dismissed cured before the eighth week, and no unfavourable effects were produced.

Wirsing⁸ reported 42 cases in 1906, 14 of which had had recent haematemesis. In one case haemorrhage recurred. In 27 of these patients the acidity of the stomach contents was estimated; it was found that during the treatment the amount and percentage of hydrochloric acid was diminished, the latter on the average from 0.14 to 0.11 per cent. Some cases did not show this, and yet progressed as well as the others.

The method of Senator, which has some similar features to that of Lenhartz, may be mentioned here. It consists of the administration of gelatine, butter, and cream from the beginning. He (see reference¹³) has reported 50 cases fed upon this diet, of whom 2 died, that is, 4 per cent.

Ewald⁹ uses nutrient enemata for three days after a haemorrhage, and then gives milk, butter, and eggs, followed by other foods, as in Lenhartz's plan. He reported 34 cases in 1906. The results, however, appear to be inferior to those of the Lenhartz method. In 14 cases death occurred either after operation or immediately after haemorrhage, and there was a recurrence of haemorrhage in 7 per cent.

Ewald considers that the Lenhartz method cannot be justified on theoretical grounds and is not worth the risk. The above facts and figures, however, do not support this view, and, so far as data have been collected, it appears to be less risky than other methods of treatment.

Lenhartz in 1906¹⁰ reported 140 of his cases, all with recent haemorrhage by the mouth, or melaena. These include some of those reported by Wagner and Haberman. The mortality was 2.14 per cent. He recommends that in such cases great care should be taken not to increase the bulk of milk too rapidly, and in some instances quoted the eggs were given without the milk for two or three days. In one case, by the twelfth day only 17 oz. of milk per day was being taken. The stomach should never be distended. He reports that in two of his patients who died, on the fifteenth and eighteenth day respectively, the ulcer was found to be smooth and healed. He recommends the diet strongly for patients who have recently had a gastro-enterostomy performed.

Lambert¹¹ in 1907 published 5 severe cases, all of whom did well on the treatment. One was a woman of 32 years, who, after seven days' rectal feeding and seven days' careful feeding by the mouth with peptonized milk, still had occult blood in the stools and a haemoglobin percentage of 39, and the question of operation was being mooted. The Lenhartz treatment resulted in a cure. Another patient objected to the diet, even to the point of nausea and vomiting, but nevertheless, after the cessation of the diet for one day, did well. In another haemorrhage went on until the thirteenth day, and the case was regarded as below the safe limit for surgery, and yet made a good recovery on this treatment. A fourth case, with signs of peritoneal irritation, leucocytosis, and a temperature of 100° to 104°, also recovered. In a fifth case, in which the haemoglobin was reduced to 20 per cent., in spite of an attack of enteric fever upon the twenty-second day, the treatment proved successful. Lambert's fourth case resembles one which came to my notice after the figures which I have given had been collected. A young woman of neurotic temperament was treated by Mr. G. E. Friend for gastric ulcer on the Lenhartz plan. She had no pain for four days, when vomiting recurred, with rigidity of the upper part of the abdomen. Perforation was discussed; the patient was put upon enemata, and made a good recovery. It is a matter of conjecture whether she would or would not have recovered equally well if, as in Lambert's case, the treatment had been persisted in.

Berger,¹² in a publication from the Hamburg school, points out that so efficient has the method of treatment been found in the Eppendorfer Krankenhaus that it has proved useful as a method of diagnosis, for in cases which fail to respond the diagnosis has, in many instances, been at fault. He quotes six cases in which the failure of the diet led to the diagnosis of cancer, which was confirmed by operation in four of them and in two by autopsy. In another case haemorrhage was found to arise from dilated veins about the oesophagus due to cirrhosis of the liver. He says, further, that in cases of pain without bleeding which do not yield, nervous diseases may be suspected.

Schnütgen¹³ mentions in 1907 that Lenhartz had then treated 201 patients, with a mortality of 3 per cent. This is about the same as the mortality in 195 cases treated by nutrient enemata by Leube, which was 4 per cent. Leube has altogether collected 556 cases, with a mortality of 2.2 per cent., but many of these were not of the hospital class.

It appears, therefore, that the death-rate of patients treated by the Lenhartz diet is not greater than that of those treated in other ways.

Finally, Dr. Langdon Brown¹⁴ in a recent paper mentions that he has treated 11 cases by the Lenhartz method with good results in 9 of them.

In conclusion, from an examination of these two series of cases, it may be said:

First, that the Lenhartz method of treatment is not

more dangerous than treatment by nutrient and saline enemata followed by a graduated milk diet. In these particular cases the recurrence of haemorrhage was less frequent, and there were no deaths.

Secondly, that the pain suffered by the patient in the course of treatment is less on the Lenhartz diet.

Thirdly, the diet gives far more nourishment than can be introduced into the body by nutrient enemata, and is, therefore, more desirable in patients who have frequently been for a long time in a state of semi-starvation, or have suffered a loss of blood, or both.

Fourthly, that in cases treated by this method rectal injections may be entirely avoided. This is an advantage in a hospital, and a still greater advantage in treating cases at their homes, where rectal injections are not only regarded as extremely unpleasant, but are seldom efficiently administered.

REFERENCES.

- ¹ *Med.-Chir. Trans.*, 1907, xc, 283. ² *Clin. Journ.*, 1907, xxx, 222.
- ³ *Deutsch. Arch. f. klin. Med.*, 1890, xlii, 296. ⁴ Haberman, J. V.: *Lancet*, 1906, ii, 25. ⁵ Sutherland's *System of Diet and Dietetics*, 1908.
- ⁶ *Münch. med. Woch.*, 1904, li, i. ⁷ *BRITISH MEDICAL JOURNAL*, 1904, ii, 114. ⁸ *Arch. f. Verdauungsk.*, 1905, xi, 197. ⁹ *Centr. f. d. ges. Therap.*, September, 1906: see also *Deutsch. med. Woch.*, 1908, xxxiv, 361.
- ¹⁰ *Mitt. a. d. Hamb. Staatsk.*, 1906, vi, 345. ¹¹ *Trans. Assoc. Amer. Phys.*, 1907, xxii, 607. ¹² *Mitt. a. d. Hamb. Staatsk.*, 1907, vii, 157.
- ¹³ *Therap. d. Gegenwart*, 1907, xlviii, 250. ¹⁴ *Clin. Journ.*, 1908, xxxi, 109. ¹⁵ *BRITISH MEDICAL JOURNAL*, 1903, ii, 68.

THE EARLY DIAGNOSIS AND TREATMENT OF CANCER OF THE STOMACH.*

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THERE can be no doubt about the importance of this subject. The stomach is a very common seat of primary malignant disease; indeed, in nearly half of all the cases of carcinoma seen in the *post-mortem* room the primary seat of the disease is in the stomach, and although figures from the *post-mortem* room indicating the allocation of primary cancer to different organs cannot be accurately transferred to the living, for many cancers—for example, of the breast—which can be easily observed are excised early, yet the *post-mortem* figures show that cancer of the stomach is terribly frequent. It causes 1.5 per cent. of all deaths at Guy's Hospital. The necessity—if we are to do any long-lasting good to these patients—of an early diagnosis is obvious, for we know of no medical means of successfully treating cancer of the stomach, and with our present knowledge we know of no other proper treatment for cancer than excision, but my experience is that almost invariably by the time a patient comes into the hospital, or by the time a consultation is sought in private practice, the disease is too advanced for excision.

There are many cases in which an early diagnosis is impossible, for the patient does not seek advice until secondary deposits have developed. Thus it is not uncommon for the patient not to consult a doctor until he has secondary cancer of the liver, and in some such cases the most careful examination and investigation of the history fails to suggest the seat of the primary growth. Still in some cases at least there might, I think, be some improvement in our early diagnosis.

The patient's history is of the greatest importance. Three-fourths of all the cases occur between the ages of 40 and 70, and that in spite of there being far fewer people alive then than at earlier periods. There are an enormous number of persons who suffer from dyspepsia unassociated with any organic disease, but such usually have symptoms of dyspepsia when they are young adults, therefore if symptoms of serious chronic gastric indigestion first appear after the age of 40, organic disease of the stomach should be strongly suspected, and if a comparatively short period of medical treatment does not effect a cure, it may be quite justifiable to open the abdomen to see if a growth is present, and, if possible, to take it away. In all cases of gastric carcinoma the uttermost endeavour must be made to diagnose carcinoma of the stomach before the

* Remarks made in introducing a debate on the subject to which the paper relates at the Harveian Society of London.