REFRESHER COURSE FOR GENERAL PRACTITIONERS

THE TREATMENT OF ULCERATIVE COLITIS

BY

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One of the most eminent teachers of clinical medicine at the Middlesex Hospital is reputed to have said to his students, "The most important thing you have to learn while in the wards is to diagnose the nature of a patient's illness. Once the diagnosis is made the treatment can be looked up in a book."

Like so many epigrammatic statements this is only a half-truth. One of the differences between a newly qualified practitioner and an experienced doctor is that the latter has himself tried various treatments for various diseases, and has found out which are the most successful. There is no doubt that the best way of learning therapeutics is by treating a series of cases oneself; the second best way, perhaps, is by reading detailed accounts of cases treated by others. And so readers of the Refresher Course who still continue to treat at home, or in nursing-homes, the patients who are seriously ill, and do not send them all into hospital, may be interested to read about one or two patients suffering from ulcerative colitis whom I have treated, and to see how they have fared.

One afternoon, when I was teaching on such a case in my ward, I asked a postgraduate student what treatment he would advise. He replied, "Forty treatments have been recommended, but none of them are any good." When I suggested that he might unmuzzle his wisdom he reeled off the following list: vaccines, sera, special diets, sulphonamides, penicillin, bacteriophage, pneumoperitoneum, psychotherapy, vitamins, blood transfusion, oxygen per rectum, astringents and antiseptics per rectum, and various operations such as ileostomy and high colostomy, appendicostomy and caecostomy, and colectomy or hemicolectomy.

Recognizing that he had read a recent article on ulcerative colitis in a medical journal, and not wishing to be outdone, I added to the list ileal extracts taken by mouth, protein hydrolysates, ionization, artificial-fever therapy, and vagotomy.

If we are to adopt this nihilistic view about the treatment of ulcerative colitis I may as well close my article now; but I am not so pessimistic, though I know that in this disease relapses are apt to occur after apparent cure. I propose to give some details about two cases that I treated.

Illustrative Case 1

A married woman aged 31 was admitted to hospital on July 29, 1946. She looked very ill, was pale and thin, and had lost over 2 st. (12.7 kg.) in weight during the last 15 months, weighing now only just over 6 st. (38.1 kg.). She lived in a damp cottage in the country with a concrete floor; there were four children at home under the age of 9 years; and her husband, who worked as a nursery gardener, had a partially paralysed left arm resulting from war wounds. The house-physician described her as being "of a worrying type and rather introverted." In addition to household cares the patient was concerned about the reduction of her husband's war pension. It was difficult to get an accurate history of the illness, but it appeared that blood was first noticed in the stools in August, 1944, during pregnancy. The bleeding was attributed to piles, though at this time the patient also suffered from abdominal pain

and diarrhoea. After parturition the diarrhoea stopped. In September, 1945, there was a recurrence of diarrhoea with blood in the motions, and severe griping abdominal pains, which the patient described as "worse than having a baby." This continued until admission to hospital.

Further examination showed that the mucous membranes were very pale, the teeth carious, and the blood pressure low—100/70 mm. Hg. Her temperature was raised to about 102° F. (38.9° C.) in the evening, falling to 99 or 100° F. (37.2 or 37.8° C.) in the morning. The abdomen was distended owing to flatulence; the transverse and descending colon was palpable and very tender. The urine was normal. The bowels were opened on an average six times by day and six times by night.

The first steps in the treatment of such a case were to exclude other causes of diarrhoea, to determine the degree of anaemia, and to establish the diagnosis of ulcerative colitis. The agglutination tests on the blood serum were negative for the typhoid and paratyphoid, and the dysentery and para-dysentery groups of organisms. The stools showed no amoebae or cysts, no ova, and no pathogenic organisms. There were numerous degenerate pus cells, red corpuscles, and macrophages. On culture only *Bact. coli* types of organisms were grown. The blood count indicated a severe hypochromic anaemia, with haemoglobin 55%, red corpuscles 2,000,000 per c.mm., colour index 0.65, white cells 6,600 per c.mm. (polymorphs 53%, lymphocytes 43%, monocytes 4%). The corrected sedimentation rate of the red cells was 13 mm. % plasma at one hour. Sigmoidoscopic examination showed numerous bleeding ulcers about 5 in. (12.7 cm.) from the anus, with mucosal polypus formation.

Looking back on the cases of ulcerative colitis which I have treated during the last 30 years, I think that the greatest advance has been in the use of blood transfusions in severely anaemic patients. It is impossible to raise the blood count to normal by giving iron by mouth when the blood is steadily dripping away below. Further, the blood transfusions help to restore the plasma albumin, which is always likely to be low, and also aid in effecting an adequate mineral concentration in the blood.

In this case we found the plasma albumin to be 2.3 g. % instead of the normal 4.5 to 5.2 g.%. The figures for the plasma globulin and fibrinogen were normal. The patient was first given $\frac{1}{2}$ gr. (32 mg.) of phenobarbitone three times a day to calm her generally, and 1/200 gr. (0.32 mg.) of atropine sulphate in water by mouth three times a day to cut down vagal and sacro-pelvic parasympathetic nervous impulses to the colon. Bismuth and kaolin preparations must not be given, as they may cause caking of the intestinal contents and pressure necrosis of the intestine. When the abdominal pain was very severe in the early stages, relief was obtained from 15 min. (0.9 ml.) of tincture of opium in water. The patient's blood was found to belong to Group O, and 3 pints (1.7 litres) of compatible blood was given by drip transfusion intravenously.

Ten days or so later, on August 23, the patient said that she was feeling much better; the diarrhoea had almost ceased, the bowels now being opened on an average three

times in the 24 hours. The temperature, however, was still raised to 100 or 101° F. (37.8 or 38.3° C.) in the evenings. In addition to this treatment, a high-protein, high-calorie, and low-residue diet was ordered, the septic teeth were removed under a penicillin "screen," and sulphaguanidine, 1 g. every six hours, was given by mouth for two weeks. Vitamin B complex was administered, two capsules daily, and 4 ml. of "hepatab" was injected intramuscularly every four days. The diet was of necessity subject to war-time restrictions, but a more varied one, which can be obtained now, is given below.

The haemoglobin rose to 66% on August 26 and remained at this level for another four weeks. By the end of September there was no diarrhoea, no blood in the motions, no abdominal pain, but also no gain in weight.

Relapses

During October there was a relapse. The temperature, which had been normal for a week, rose again, with recurrence of diarrhoea, the bowels being opened five times in the 24 hours and the motions containing blood. On October 18 a further blood transfusion was given of 2 pints (1.1 litres), with good results. The temperature fell to normal, the diarrhoea ceased, and the haemoglobin rose to 77%. In a week or so the patient was able to walk around the ward, and she returned home at the end of November. She was now feeling well, had a good appetite, was satisfied with her treatment, and was gaining weight at the rate of 3½ lb. (1.6 kg.) a week.

But this happy state of affairs did not, unfortunately, last long. Two weeks after returning home she relapsed, and her doctor wrote, "The circumstances of her home are absolutely shocking and her idea of diet hopeless." I recommended her to come into hospital again, but she was unwilling to do so, saying that she must look after her home. She remained partly in bed at home, and by the end of March, 1947, was much better. She was very fit during the summer, being able to walk four to five miles (6.4 to 8 km.) a day, and her weight increased to 10 st. 9 lb. (4.8 kg.). One day in September, while carrying a pail of water from the well in her garden to her house, the diarrhoea recurred, with the passage of blood in the motions. The patient, however, kept on with her household work until December 24, 1947, when suddenly there occurred a shivering attack, high temperature, severe abdominal pain aggravated by any movement, diarrhoea, and at times incontinence of faeces. Various opium preparations were administered, but she continued to lose weight, and finally was again admitted under my care in hospital on March 9, 1948.

When I saw the patient I could tell at once that, although very pale, she was not nearly so ill as on the first admission. Her temperature was normal; her weight, however, was very low—6 st. 8 lb. (2.9 kg.). She said she could feel "hard lumps" running across the abdomen from right to left, which resolved themselves into the passage of mucus and wind. The motions were loose, containing mucus but no blood, and the bowels were opened about once by day and six times by night.

This preponderance of night motions is interesting, and is probably due to an exaggeration of the normal predominant activity of the parasympathetic over the sympathetic during sleep. The haemoglobin was lower than it had been before, 32%, and the red cells numbered 3,200,000 per c.mm. A drip transfusion of 3 pints (1.7 litres) of blood was given, on March 14, the haemoglobin rising to 60% and the red cells to 3,900,000 by March 18. During the next two weeks the diarrhoea ceased and there was a gain of 8 lb. (3.6 kg.)

in weight. In addition to the transfusion, phthalylsulphathiazole was given by mouth in doses of 1 g. three times a day for two weeks, and "trasentin" tablets, 75 mg., one or two a day, as required for abdominal pain. A mixture containing 30 gr. (2 g.) of ferric ammonium citrate was taken three times a day, and 200 mg. of ascorbic acid daily.

On April 3 the patient returned home again, feeling and looking very much better. I had not heard any more about her, and so, before completing this article, I wrote to her doctor, and he replied, "She does not suffer from diarrhoea so much, but has tenesmus and is continually passing some mucus and blood. She says she is too ill to go outside. The anaemia is not so obvious, but the tongue is very pale. Though the legs are not swollen the abdomen has enlarged considerably. I cannot feel anything. Her periods occur every three weeks." I suggested the advisability of another blood transfusion and protein hydrolysate, two teaspoonfuls three times a day with meals.

Diet

The following diet contains approximately 385 g. of carbohydrate, 145 g. of protein, 115 g. of fat: 3,155 calories.

Breakfast.—Milk 8 oz. (230 ml.), porridge (strained) 1 oz. (28 ml.), crustless bread 3 oz. (90 g.), sugar ¼ oz. (8 g.), 1 egg, and bacon 1 oz. (30 g.), or fish 4 oz. (120 g.), butter ¼ oz., pipless jam or honey or syrup ¼ oz.

Lunch.—Cream soup (canned) 10 oz. (280 ml.), meat (minced) 2 oz. (60 g.) or fish 4 oz. or cheese 2 oz., mashed potatoes 6 oz. (180 g.), purée of vegetables 4 oz. (120 g.), pudding made from milk 8 oz., semolina or other cereal ½ oz., fruit purée as desired, sugar ¼ oz.

Tea.—Milk 2 oz., crustless bread 2 oz., butter ¼ oz., sponge cake or plain cake without fruit 2 oz., pipless jam or honey or syrup ¼ oz.

Supper.—As for lunch.

On Waking, at 11 a.m., and Last Thing at Night.—Milk 2 oz., cocoa ½ oz.

The cream soups may be thickened with dry potato powder. Syrup may be used as desired in sweets. The sweet ration should be taken as chocolate. Yoghurt and fruit juices, such as blackcurrant juice and rosehip syrup, make a useful change from the usual pudding. Very ripe bananas, if available, may be taken, as may be sweetbreads, brains, or kidneys.

Some doctors prefer that their patients should not be ordered a low-residue diet, and consider that a certain amount of roughage is beneficial. I do not agree with this. I think it is of importance to avoid raw fruit. I have known an orange, or one or two grapes, brought in by visitors, cause a relapse in a patient who was doing well.

Illustrative Case 2

In December, 1947, I was asked to see a married man aged 45, suffering from the same complaint, in whom the nervous or psychological symptoms were more in evidence. The doctor told me that the patient had suffered from digestive trouble all his married life, chiefly nervous symptoms, nausea, fainting, and appendix pains. He belonged to a more educated class than the first patient, being employed in one of the Ministries, and he was afraid that he would not "make the grade" for establishment. In addition to the anxiety thus produced, he was worried about financial commitments on a house into which he had just moved.

We are all familiar with the literature during recent years dealing with the psychiatric aspects of ulcerative colitis, and

the emphasis placed by some writers on what is termed the "grief response." Stress has also been laid on the dependent personality of many victims of this disease and the close physician-patient relationship which develops during treatment. The cause of ulcerative colitis is not known. It is described as a psychosomatic illness, which means, I believe, that a disorder of the mind produces a disease of the body, and as Sir Toby Belch said, "I am sure care's an enemy to life." The treatment recommended by some seems rather unfair—to cut out the innermost portion of the body which is the victim of the disorder of the mind, rather than to cure the diseased mind by psychological treatment. The latter, however, is found to be of little value. I have not been able to discover convincing evidence in my cases to support the view that a disturbed mind produces a diseased colon, rather than vice versa, and one of my patients told me recently that the diarrhoea resulted in "frayed nerves."

The patient said that he considered another factor in the production of his illness was overwork, both during and after the war. During 1944 he suffered from mild diarrhoea for four weeks, followed by an attack lasting for six weeks in 1945. In 1946 there was a severe attack of lichen planus, perhaps due to nervous disturbances.

When I was consulted on December 7, 1947, the diarrhoea had already lasted for five weeks, accompanied by the passage of blood and mucus. The patient suffered from colicky abdominal pain, intermittent fever, loss of weight, and was confined to bed. His own doctor had prescribed a course of sulphaguanidine followed by phthalylsulphathiazole, without beneficial results, and ten days before my visit had called in a surgeon, who advised a permanent transverse colostomy, saying that medical treatment would be of no avail. A barium enema examination had shown absence of the normal haustrations in the transverse and descending colon. The haemoglobin had fallen to 77% on November 27; the faeces contained much pus and yielded a growth of Morgan No. 1 bacillus.

Question of Operative Treatment

I was asked my opinion: should the patient submit to this operation with its unpleasant aftermath, or could I suggest an alternative form of treatment?

I should like to say a few words here about the operative treatment of ulcerative colitis. We are all agreed that if an operation is to be performed it should not be delayed until the patient is so debilitated that the chance of recovery is slight. The object of any operation is to give complete rest to the affected colon, and this can be most efficiently done by ileostomy, unless a colostomy can be performed in a healthy area of the colon. The ileostomy will have to be permanent in most cases, but a special bag can be worn—the Koenig-Rutzen bag—which is illustrated in the paper by Hardy and his colleagues (1949). McKittrick and Moore (1949), in America, record their experience of 149 cases of ileostomy, with a mortality rate of 22% and about 70% of the patients expressed themselves subsequently as well satisfied with the operation. In others the operation was a failure: one patient committed suicide; another wrote, "the whole thing is a mess, whatever I do." Is a permanent ileostomy too high a price to pay for health?—that is the question.

My answer in this case can be guessed with little difficulty. The patient came into hospital on December 13. The bowels were now opened three to four times during the day and four times during the night. The motions contained mucus and blood, but no abnormal organisms were found on culture. There was a moderate

degree of anaemia, the blood count showing: haemoglobin, 79%; red cells, 4,300,000 per c.mm.; C.I., 0.9; white cells, 12,900 per c.mm., with a normal differential count. The corrected sedimentation rate of the red cells was 18 mm. % plasma at one hour. The temperature was normal. This did not appear to be a very severe case of ulcerative colitis, and the psychological factor was a much more prominent feature than in the case previously described. The patient was given a course of phthalylsulphathiazole, 1 g. three times a day for 14 days together with a high-calorie, high-protein diet, 200 mg. of ascorbic acid daily, and 6 gr. (0.4 g.) tab. ferrous sulphate thrice daily.

By December 26 the motions were reduced to four in the twenty-four hours, and they were more formed. Three days later no blood was seen in the motions. On January 1, 1948, the bowels were opened once by day and once by night and the motions were formed. A week later the patient said he felt very well and was pleased with his progress and hopeful of recovery. On January 15 the bowels were opened only once in the twenty-four hours, and sigmoidoscopy showed a healing mucosa, with some residual infection. There was excess of mucus in the bowel lumen, but no blood. The patient soon returned home, having gained 2 lb. (0.9 kg.) in weight.

On March 1, 1948, a further examination was made at hospital. There had been a gain of 18 lb. (8.2 kg.) in weight in the past six weeks and the patient had been working for two weeks. He was completely free from intestinal symptoms, but was still anxious about his work, though every effort had been made to encourage self-confidence.

In this case the degree of anaemia and the condition of the patient did not indicate the necessity for a blood transfusion.

In 1950 I wrote to the patient's doctor inquiring about further progress, but he told me that the patient had now left him. I then wrote to the patient, and he replied that he was very well.

Conclusion

The cause of ulcerative colitis being unknown, treatment must be symptomatic, and repeated blood transfusions are of the greatest value. The ultimate results, however, are very unsatisfactory. In the series of Hardy *et al.* (1949) ileostomy was performed on 21 patients, with six deaths, but half of these deaths were said to be avoidable. Of the last nine patients operated on, however, only one died.

Comanduras, in America, wrote that the word "cure" must not be used; "arrested stage" is preferable, and two-thirds of those who have been operated on will be dead after a few years. Rice-Oxley and Truelove (1950) investigated the records of 72 new cases treated at the Radcliffe Infirmary, Oxford, from 1938 to 1948; of these, 22 died within a year of onset, and one-third of the remainder had succumbed at the end of five years. Recurrences were frequent, and emergency ileostomies did not seem to be justified.

REFERENCES

- Hardy, T. L., Brooke, B. N., and Hawkins, C. F. (1949). *Lancet*, 2, 5.
McKittrick, L. S., and Moore, F. D. (1949). *J. Amer. med. Ass.*, 139, 201.
Rice-Oxley, J. M., and Truelove, S. (1950). *Lancet*, 1, 663.

A special advisory committee has been formed by the American Heart Association in order to develop public-health work in the field of cardiovascular diseases. The committee will provide detailed practical plans which can be carried out by local heart associations for the benefit of cardiac patients in their areas. The chairman of the committee is Dr. William A. Brumfield, jun., deputy commissioner of the New York State Department of Health.