the isolation of the virus from the rectal tissue will unquestionably establish the presence of infection with the virus of lymphogranuloma venereum in the occasional case of ulcerative colitis.

Finally, and of immense diagnostic importance, is the routine practice of repeated microscopic and cultural examinations of aspirated material obtained directly from the ulcerative lesions through the proc-tosigmoidoscope. The sigmoidoscopie aspirator, devised by the author in 1933, has been used to obtain such material. It aspirates exudate from the depths of ulcers and the crypts of the mucous membrane thus furnishing ideal material which is most likely to reveal the causative organism. Specimens must not be aspirated following soapsuds enemas, or while bacteriostatic drugs are being used. The procedure should obviously be avoided for at least 72 hours following the use of barium for X-ray studies. Several smears must be made routinely of the aspirated specimen for study with Gram, acid-fast, and iron hematoxylin stains.

The rectosigmoid aspirator has also been used for the aspiration and collection of fresh rectosigmoidal material with excellent results. This instrument makes possible the collection of a stool suspension through a sterile field and into a sterile test tube. It eliminates the irritation of repeated sigmoidoscopies and simplifies the handling and transportation of the fresh specimen. It also avoids outside contamination from bedpans, paper and glass containers.

To summarize — the mere diagnosis of Ulcerative Colitis or "Idiopathic Ulcerative Colitis," or "Nonspecific Ulcerative Colitis," is incomplete, of limited prognostic or therapeutic usefulness, and often leads unnecessarily to long periods of invalidism. An etiologic diagnosis must be the objective of the Gastroenterologist.

REFERENCES


Treatment of Diarrhoea

By

ALFRED J. CANTOR, M.D.
FLUSHING, N. Y.

REGARDLESS of the etiology of a particular diarrhoea certain general principles have been established for treatment. We shall here discuss these general principles. In addition to the general therapy outlined, specific treatment for the particular diarrhoea should be employed as soon as a diagnosis is made. In the interim before diagnosis, and during the specific period of treatment as well, the general measures to be described are employed.

These general measures are supportive in most cases. Frequently they will make the difference between a successful outcome and a loss of life. The very great loss of water, proteins, salt and vitamins during an active diarrhoea may be a threat to life.

The loss of fluids is often so great that an extensive dehydration develops. Associated with this dehydration is a loss of chlorides and a concentration of the blood stream. The blood urea rises and the blood chlorides fall. The clinical appearance of the patient suffering from dehydration is well known. The skin becomes dry and loses its flexibility. The tongue is dry. The patient actually looks dried out and the eyes are often sunken.

In these cases intravenous therapy must be employed at once. Five per cent glucose in saline is given intravenously until there is clinical improvement. The glucose provides caloric intake, and the blood chlorides are improved by the saline. Two thousand to three thousand cc. of this solution may be required daily. It is best to alternate continuous infusions of this nature between the veins of the arm and those of the leg, for the therapy must often be continued over a period of days.
Hypoproteinemia rapidly develops in many patients. Protein deficiency results from the excretion of protein from an over-active intestinal tract. Hypermotility of the intestinal tract and the loss of glandular secretions prevents adequate digestion and absorption of proteins.

Once again the clinical picture is evident. The patient is very weak from loss of nutrition. Hypoproteinemia is further evidenced by a pitting oedema of the ankles and a puffing about the eyes. Clinical examination demonstrates a low blood pressure, rapid pulse and a severe anemia. The blood chemistry reveals an inversion of the albumin-globulin ratio and a low serum protein.

It is interesting to note that the oedema produced by the hypoproteinemia is to be found in the intestinal tract as well as in the ankles and eye-lids. The gastro-intestinal mucosa is oedematous, and this further prevents adequate digestion and absorption.

Again we must rely upon intravenous therapy. Amigen, an enzymatic hydrolysis product of casein, is particularly valuable. To restore blood volume and plasma protein level whole blood and plasma should be employed. Whole blood will rapidly restore the red blood cell volume.

Oral amino acid therapy should not be employed until the patient is clinically improved. Oral amino acids often increase the tendency to diarrhoea, and should not be employed until the gastro-intestinal tract oedema is entirely relieved.

A high protein, high caloric and low residue diet may be prescribed during the last stages of parenteral feeding. During the early stages of oral feeding food is added very gradually. Such foods may consist of tea, preferably green tea, rice water and barley water, ripe, brown-flecked bananas and boiled or steamed rice. If these foods are well tolerated the high caloric and high protein diet may be instituted. All food must be appetizing to the patient. Additions must be made gradually. It is best to avoid fruits, fruit juices and vegetables during the early stages. When the patient shows sufficient improvement to tolerate these they should be added. Meanwhile, the hypovitaminosis of diarrhoea is treated by intramuscular or intravenous therapy. An excellent preparation is Solu-B. Large doses of ascorbic acid, riboflavin and niacinamide, as well as thiamin chloride, should be given by the parenteral route.

Vitamin A may be given orally in capsules. A single capsule of 5,000 to 10,000 U. S. P. units should be given. Thiamin chloride should be given in large dosage, approximately 100 mg. parenterally. Riboflavin and niacinamide may be given in the form of Solu-B, which contains 10 mg. of riboflavin and 250 mg. of niacinamide in 5 cc. of distilled water. It is best to give between 15 and 25 mg. riboflavin, 150 to 500 mg. of niacinamide and 10 to 100 mg. of thiamin chloride daily.

Ascorbic acid will be required in a dosage of 150 to 1,000 mg. daily, and may be given parenterally in 2 cc. ampoules of 100 mg. each. Vitamin D is recommended in a dosage of between 500 and 1,500 U. S. P. units daily. Vitamin K is employed only if there is a prolonged prothrombin time. A parenteral dosage of 5 or 10 mg. will be required.

In addition to these preparations liver extract should be recommended intramuscularly, at least three times a week. After the first week or two, depending upon the degree of clinical improvement, it may be possible to give these vitamin preparations orally. When this occurs the dosage will be reduced and a maintenance dosage substituted. For Vitamin A the maintenance dosage is 5,000 to 8,000 units daily, for thiamin chloride 5 mg. daily, for riboflavin 5 mg. daily, for niacinamide 25 mg. daily, for Vitamin D 500 U. S. P. units daily, for ascorbic acid, 50 mg. daily, and for Vitamin K from 1 to 2 mg. daily. Of course the natural food sources of the vitamins will be employed exclusively as soon as the clinical condition warrants a high vitamin diet. During the early stages of dietary therapy, while fruits and fruit juices and vegetables are not desirable, supplementary vitamin preparations must be employed actively.

During the early stages of therapy, while diet is limited, it will be necessary to supplement minerals as well as vitamins. Iron must be used with caution inasmuch as it frequently aggravates diarrhoea. This is due to the fact that iron is excreted through the colon. Iron may be employed parenterally. If there is a macrocytic anemia folic acid may be given by mouth in 5 mg. tablets. The dosage will be approximately 15 mg. daily for adults. A calcium lack may be corrected by oral or intramuscular administration of calcium gluconate. Calcium ascorbate may be given daily parenterally. Each 5 cc. ampoule of this preparation supplies approximately 47 mg. of calcium and 413 mg. of ascorbic acid in 5% dextrose. It is best to avoid the oral route in administering calcium.

Do not permit milk. Broths and cocoa may be allowed and small amounts of carbonated water. Bland cereals such as Farina and Cream of Wheat are then added, followed by toast, soft boiled or poached eggs, stewed breast of chicken, and mashed baked potato.

Avoid all soups other than broths. No alcohol is permitted and no fried foods. Spices are prohibited. No pastries or candy should be allowed.

Grated raw apple, one to two tablespoons every one or two hours, is sometimes very effective in controlling diarrhoea. Apple pectin may be given, and is effectively combined with kaolin.

Any food to which there is a known intolerance should be avoided. As soon as tolerated at least eight glasses of water should be taken daily. It is best to avoid candies, jams, and jellies until very late in dietary therapy.

Supportive drug therapy must be employed in the general management of the diarrhoeal patient. We