tions they become indistinguishable clinically, procto-
logically and bacteriologically and may be termed non-
specific ulcerative colitis. Treatment at this latter stage is then to be divided into (a) the management of the patient as a whole which includes rest, diet, supportive therapy and the relief of toxemia; and (b) therapy directed toward the diseased bowel which includes the use of bactericides orally and by enema; also sera and vaccines.

Rest: Functional disorders are largely the result of ineffective reactions of the individual to certain unfavorable environmental factors. Some of these may arise in his home life, or derive from marital maladjustments,
economic conditions, or the stress and strain of his daily work. Individuals who have suffered long and severely become neuritic and their statements are unreliable. They need mental and psychic guidance as well as physical rest. Patients with idiopathic ulcerative colitis should be hospitalized and denied, or at least limited, as to visitors. Psychotherapy directed toward the alleviation of emotional or social problems is essential toward assuring these patients of our own confidence in the plan of treatment we are about to inaugurate.

Sedatives and antispasmodics have a definite though limited use. The literature is replete with drugs, natural and synergistic, which are said to depress the overactivity of the parasympathetic system and to thus allay nervous excitement, anxiety and apprehension. My experience with their local effects has not been satisfactory. They are tolerated by the digestive tract for only a brief period and their psychic deteriorating effect is sometimes distressing. Phenobarbital, ½ grain (0.03 gm) three times daily, promotes longer hours of restful sleep. Tincture of belladonna in doses of 30 to 45 minims (2 to 3 cc.) daily may be helpful. Camphorated tincture of opium may be indicated at the beginning of the management of the severe acute fulminating cases.

Diet during the diarrheal stage: A soft diet, high in calories and vitamins and low in residue, is prescribed. This includes bananas, cooked vegetables, bread, butter, eggs, meat and fish and a glass of milk or buttermilk (8 ounces) at each meal. It excludes raw fruits and vegetables, as well as beans, cabbage, and other notoriously "gassy" foods, candy, honey, syrup, bran, nuts, carbonated beverages, beer and spiced or highly seasoned foods. Smoking and chewing gum may also produce flatulence and should be avoided. This menu should be supplemented with liver (½ pound twice a week), and glandular meats for parathyroid action (½ pound once a week).

Diet during the convalescent stage: The health of normal people is determined considerably by the type of food they eat, and this is of specific importance in chronic digestive disturbances. Many of our chronic ulcerative colitis patients show objective evidences of nutritional deficiencies and it should be routine to look into the patient's dietary history during both the diarrheal and constipated stages, evaluating the absorption of his diet and estimating his dietary requirements. Acute deficiency states are more easily recognized than are the chronic borderline ones, and the possibility that borderline deficiency, over a long period of time, can cause ulcerative changes in the bowel, should be kept in mind. Granting that the diarrheal attack may be an infection, a food deficiency may be a secondary factor. However, at the present time, there is no proof that a lack of any specific food is a causative factor in chronic nonspecific colitis. During the convalescent stage many of these patients have a red, smooth tongue and skin changes of vitamin B complex deficiency. After the diarrhea has subsided and the bowel is functioning normally, the patient should be placed on a well-rounded and adequate diet. A detailed statement of the food taken at each meal in the day, together with a statement of the number of times per day, week or month that the articles mentioned are eaten, and approximately what amounts, is a time-consuming but necessary feature of the diet history.

Supportive therapy: Dehydration, exhaustion and anemia are alarming complications in any type of ulcerative colitis and may occur suddenly in all cases. They are combatt with:

A. Intravenous administration of 10 per cent glucose in normal saline in amounts of 2,000 to 3,000 cc. daily until the nausea and vomiting cease, the tongue becomes moist, the intense thirst is relieved and the patient expresses a desire for food. In some cases, one or more blood transfusions up to 500 cc. each may be necessary.

B. When retained fluids are given by mouth, at first guardedly, and later urged so that the patient received 3,000 cc. daily. This includes water (not iced), fruit juices, coffee or tea, and soup. Milk and chocolate are withheld until later.

C. Deep gluteal injections of 1 cc. liver extract be given twice weekly.

Toxemia: As a result of the diarrhea, vomiting and exsanguination accompanying the dysentery toxemia becomes a serious factor. Calcium has been used in tuberculous ulceration of the bowel to replenish these excessive losses which are made worse by the poor absorption through the inflamed bowel. Calcium is said to lessen the permeability of the tissue fluids from the ulcerated colon. Relief of the mucosal congestion and inflammation lessens the intestinal spasm and colic as well as the spreading of the infection, besides contributing to reparative processes by fibrosis and calcification. Mackie (1) says calcium lessens the protein hypersensitiveness or allergy of the cellular tissue. Minot (2) considers hypergaudinemia one of the factors of dysenteric intoxication which may be relieved by calcium therapy. Calcium seems to have multiple and diverse actions on the inflamed intestine and its combined powers seem to stimulate immunizing and reparative processes. Our patients were given immunizing and reparative processes. Our patients were given calcium orally in the form of milk and of calcium gluconate, and intravenously as 10 cc. of calcium gluconate 10 per cent each day. Calcium is said to be enhanced by the associated administration of parathyroid hormone or vitamin D. Bismuth subcarbonate and kaolin, either of which is used in one teaspoonful doses after each bowel movement, has been recommended as an inert powder of high absorptive ability which mechanically will hold and carry out hordes of toxic bacteria. Sera and vaccines to relieve the toxemia, presumably by neutralizing circulating toxins, is of doubtful and then only temporary benefit.

Topical Bowel therapy.

Much has been written about chemotherapy in the various types of ulcerative colitis. The most satisfactory drugs, at present, are the sulfan preparations and iodoxyquinolinesulfonate. In this study we use Anayodin*. This preparation has been recommended be-

*The Anayodin used in this work was furnished by a grant from the Ernst Bischoff Company, Inc., Ivoryton, Conn.