ULCERATIVE COLITIS WITH REPORT OF A CASE

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It is the purpose of this paper to review some of the literature on ulcerative colitis, and to present the case report of a patient with this disease in whom a successful outcome was obtained by psychotherapeutic means.

Review of Literature

Murray (1930a) investigated the life histories and mental attitudes of 12 patients suffering from ulcerative colitis, and found a close association in time between the emergence of a difficult emotional situation and the onset of symptoms. Mental conflicts concerned with marriage were more commonly found than other types of situations which might evoke anxiety. Murray felt that the outstanding trait in colitis patients, besides fearfulness, was their emotional immaturity, and stressed the childish elements in the make-up of his patients. In his seven male patients the onset of symptoms was associated with the conflict between the mother attachment and the desire for marriage. Of the five female patients in his series, three were involved in marriages of a significant nature, the husbands being obvious father-substitutes, one was engaged but could not marry on account of her colitis, and the fifth was unapproachable on the subject of marriage. In a later publication Murray (1930b) dealt with the analysis of a patient with ulcerative colitis and pointed to the fact that the character and sexuality of his patient corresponded quite closely to the so-called anal level described by Freud, and the masochistic and sadistic components which are so generally associated with anal temperament were very conspicuous in this patient.

In 1936 Sullivan drew attention to the long-recognized association of emotion and diarrhoea, and pointed out that psychotherapy had been astonishingly successful in the treatment of ulcerative colitis. Bagen *et al.* (1939) discussed pregnancy associated with ulcerative colitis in a series of 17 women sufferers with colitis who had 18 deliveries and 4 miscarriages among them. They concluded that the effect of pregnancy on ulcerative colitis was variable. In 1942 Daniels, in a review of 14 cases of ulcerative colitis, was of the opinion that these patients were apt to be too dependent on some member of the family, usually the mother, and conflict developed in situations threatening this dependence, especially engagement and marriage. The emotional conflict in these patients was held responsible for the appearance of colitis symptoms. He found childbirth another frequent precipitating factor.

Lindemann (1945), in a review of 45 patients with ulcerative colitis, maintained that various forms of bereavement were the most important precipitating factors in the illness, and for 26 of the 45 patients a close time relationship existed between the loss of an important person and the onset of the illness. He felt that rewarding patterns of social interaction seemed not to be indigenous to these patients, and that this state of affairs became conspicuous only when a key person on whom the patient was dependent and from whom he had borrowed patterns of interaction was removed from the "social field." He warned against deep exploration in the psychiatric handling of these cases, and recommended a superficial supportive therapy, during which the patient could identify with the therapist, and in fact imitate him in order to achieve new patterns of conduct.

In 1946 West reported three cases of ulcerative colitis in which the symptoms greatly improved after superficial psychotherapy. One of the patients subsequently passed into a psychotic state. Crohn (1947) pointed to the strong

association between the stress of marriage, pregnancy, parturition, and the onset or relapse of ulcerative colitis, and indicated the onerous responsibility borne by the physician whose advice is sought regarding marriage and maternity for those of his patients suffering from ulcerative colitis.

In 1948 Daniels attempted to show how ulcerative colitis fitted into the present concept of psychosomatic disease, and pointed out that it had proved to be amenable to psychotherapy when other treatments had failed to bring results. He maintained that somewhat over 75% of sufferers had emotional conflict as a primary causative factor, but he was of the opinion that the emotional factors did not represent the "whole reason" for the condition. Kirsner *et al.* (1948) reviewed the clinical course of 100 patients suffering from chronic non-specific ulcerative colitis. They found that emotional stress, infections of the upper respiratory tract, and physical fatigue, in that order, were most often associated with the recurrences of symptoms.

Meyer *et al.* (1948) presented evidence which could possibly elucidate the psychosomatic link in ulcerative colitis in terms more definite than merely a dysfunction of the sympathetic and parasympathetic systems. In their study of the stools of patients with ulcerative colitis they demonstrated that the enzyme lysozyme was present in a higher concentration than in the stools of normal individuals. They found, too, that concomitant with clinical improvement the lysozyme titre in the stools fell. These facts and the experimental production of ulcerations in the small and large intestines of the dog by oral lysozyme administration suggested to them that lysozyme may be the chemical agent initiating the local lesions of ulcerative colitis. They assumed two stages in the pathogenesis of the disease: (1) removal of the surface mucus with dissolution of the mucous cells, and (2) necrosis of the denuded tissue by proteolytic enzymes presumably furnished by micro-organisms. They felt that the reason for localized overproduction of the enzyme by the mucosal cells, in the disease, was obscure.

In 1949 Lindemann drew attention to the fact that in some patients the disappearance of colitis symptoms is associated with the appearance of a psychotic illness, and that when the psychosis passes the colitis symptoms reappear. Mahoney *et al.* (1949), in a study of 20 patients with ulcerative colitis, found numerous neurotic traits in their subjects, and indicated that most of these traits existed long before the development of the evidence of ulcerative colitis, and that therefore these individuals were either overtly or potentially neurotic prior to the development of the bowel symptoms. Their study indicated, further, that there was a major abnormal parent-child relationship in the early lives of patients suffering from ulcerative colitis. They maintained that none of the personality traits found in colitis patients, when taken alone, were specific for the disease.

In April, 1949, Stewart also drew attention to the fairly typical history of emotional problems which seem to play a part in the pathogenesis of the disease. He pointed out that in the case histories and psychiatric investigations of patients with ulcerative colitis the precipitating factors and the basic personalities were often found to be similar, and he confirmed the fact that these patients give evidence of the presence of neurotic disturbances before the onset of their somatic illness. In the basic personality pattern he stressed their extreme dependence, emotional immaturity, subservient yet subversive attitude to domination, their overt passivity, and their high intelligence. He advocated a reassuring form of psychotherapy, in which dependence on the therapist is fostered, to be replaced by the gradual development of independence.

Maine and O'Neill (1949) presented the case report of a young girl with ulcerative colitis to show how psychological rehabilitation had been followed by disappearance of symptoms and maintenance of good health. They pointed out that the mother's personality made it inevitable that any aggressive feeling or activity on the part of the patient

would be met not only with maternal suppression but with a strong emotional response from the mother, leading to feelings of guilt in the daughter. Further, they indicated that the mother's possessive attitude fostered the patient's dependence upon her and discouraged any attempt at the establishment of an independent life.

In 1950 Glass, Pugh, Grace, and Wolf published the result of further work on lysozyme, which Meyer *et al.* (1948) had previously felt might be the factor initiating the local lesions of ulcerative colitis. They treated human gastric and colonic mucus with lysozyme, and concluded that lysozyme did not exert a lytic action on human gastric and colonic mucus *in vitro*. They admitted, however, that their experiments did not preclude the fact that lysozyme in physiological concentration may actually be capable of destroying or initiating destruction of mucosal cells.

Later in 1950 Grace, Wolf, and Wolff, from their observations of the large bowel in four fistulous subjects, showed that feeling states characterized by anger and resentment were associated with hyperfunction of the colon. This hyperfunction was manifested by hyperaemia, engorgement, hypermotility, and hypersecretion of mucus and of the enzyme lysozyme. They observed that hyperfunction of the colon resulted in increased fragility of the colonic mucosa, and that sustained feelings of anger and resentment associated with sustained hyperfunction of the colon resulted in submucosal bleeding and ulceration.

Lindemann (1950), in the presentation of a case of ulcerative colitis in a man aged 27, drew attention to the morbid relationship which had developed between the patient and his mother. He felt that in this patient, as in some others having abnormal bowel movements, the transition from an impulse to its execution was blocked, and that the man had a marked poverty of expression.

In September, 1950, Tumen and Cohn reported their experience with six patients regarding the influence of pregnancy on the development and the course of ulcerative colitis. In three patients the disease began during or towards the end of pregnancy, and in each of the other three pregnancy occurred during a remission, but failed to bring about reactivation of colitis. They point out that all had had poor relations with their parents, notably their mothers.

In November, 1950, in a report on 173 cases of ulcerative colitis, Paulley was impressed by a similarity in the case history and personality of many of his patients. He found them to be excessively dependent and parent-controlled, usually in respect of the mother. He found that the precipitating factors in the onset of the disease and in the relapses were almost always to be found in the emotional field and in interpersonal relations inside the family.

In December, 1950, Gray *et al.* in their studies of lysozyme in the stools of patients with ulcerative colitis, failed to observe clinical improvement following prolonged inhibition of faecal lysozyme by the oral administration of a detergent ("aerosol OT"). These authors believed that this raised some doubt concerning the significance of lysozyme in the pathogenesis of the disease, but they emphasized, however, that the inhibition of lysozyme in the faeces by detergents does not necessarily reflect inactivation of the enzyme within the mucosal cells of the colon.

In January, 1951, Almy, in a report of experimental studies on the irritable colon, demonstrated that when both healthy persons and patients with irritable colon are under stress induced by experimental stimuli the sigmoid colon may show engorgement and disturbances in motility co-incident with periods of emotional tension. He concluded that in most instances irritable colon was a bodily change accompanying emotional conflict in response to environmental stress.

In March, 1951, Groen and Bastiaans reported on 29 cases of ulcerative colitis observed during the period from 1939 to 1949 and treated by psychotherapeutic measures alone. They stressed the efficiency of superficial supportive psychotherapy.

In May, 1951, a committee on psychosomatic relationships in gastro-enterology under the chairmanship of Dr. Stewart Wolf (1951) reported that, as in the case of most bodily organs and organ systems, the gastro-intestinal tract showed significant changes in form and function in association with life situations which the individual consciously or unconsciously interpreted as threatening. The committee considered the relevance of these changes to the occurrence of structural disease of the viscera to be still incomplete, but maintained that a gathering body of data indicated that the changes may be of first-grade importance in the pathogenesis of such disorders as peptic ulcer and ulcerative colitis. Although at first altogether functional and transitory, the changes may, when unduly sustained, lead to structural damage and disease.

Grace, Wolf, and Wolff (1951) published a study of direct observations made on exposed segments of colon of four fistulous human subjects, and included indirect measurements made on a variety of intact healthy subjects, on subjects with diarrhoea and constipation, and also on 19 subjects with ulcerative colitis. They concluded that life situations provocative of abject fear and dejection were associated with hypofunction of most of the large intestine, and that life situations provocative of conflict, with feelings of anger, resentment, and hostility, or of anxiety and apprehension, were found to be associated with hyperfunction of the colon. They viewed ulcerative colitis as a stress disorder, and were of the opinion that a constructive physician-patient relationship was of the greatest benefit to the patient receiving treatment, and that favourable results in treatment were not obtained without such a relationship. They found the patient with ulcerative colitis to be characteristically an outwardly calm, superficially peaceful individual of more than usual dependence. On probing beneath this calm exterior it became apparent that this outwardly placid person was "sitting on a powder keg" of intense hostility, resentment, and guilt.

Psychogenetic Features

As can be seen from the above review of some of the recently published work, a distinct personality type in sufferers from ulcerative colitis has not been uncovered, but a few personality facets common to almost all patients with colitis have been revealed. Arising out of their observations, most writers have stressed the following characteristic features in their patients: (1) their immaturity and childishness; (2) their extreme dependence and passiveness; (3) the strong parent- (or substitute-) patient relationship, with its suppressed resentment and guilt; (4) their poverty of expression; and (5) their above-average intelligence.

Likewise in dealing with the precipitating environmental factors there is not unanimity, but workers have emphasized the importance of: (1) the marriage situation, with its demand for maturity and independence from parents, and with its responsibilities; (2) pregnancy and parturition, with their attendant stress; and (3) the loss of security, especially that pertaining to the loss of another person of emotional significance.

Case Report

In this report the psychiatric aspect of a case of ulcerative colitis is presented. The interplay of the major personality features and precipitating environmental factors outlined above are illustrated. The patient responded well to psychotherapy, remained symptom-free for two years despite many stressful situations, and then relapsed to a considerable degree in the wake of a minor incident. After five weeks of psychotherapy her symptoms again disappeared, and at the time of preparation of this report she had been well for 16 months.

A housewife aged 35 was admitted to the medical wards of the Johannesburg General Hospital on November 3, 1949, under the care of Dr. M. M. Suzman, with the complaint of recurrent attacks of diarrhoea with blood and mucus in the stools, of 11 years' duration.

The first attack, which lasted a few weeks, took place in August, 1938. The symptoms reappeared in January, 1939, and lasted for 12 months. During this period she passed between 25 and 30 stools on some days, and at one stage weighed only 65 lb. (29.5 kg.). In 1942 mild symptoms of colitis reappeared, but they lasted only a few weeks. In December, 1947, the symptoms again appeared, and, apart from a few remissions lasting some months, the colitis progressed until the time of admission. At that stage stools were frequent, up to 10 daily, and contained blood and mucus. There were fever, the temperature reaching 101.6° F. (38.7° C.) on occasions, colicky abdominal pains, fatigue, and debility, and a fall in weight from 136 to 105 lb. (61.7 to 47.6 kg.) over a period of three months.

Physical examination was essentially negative, apart from the state of undernutrition and generalized abdominal tenderness. Sigmoidoscopy revealed the presence of two bleeding ulcers in the lower colon. The appearance was consistent with a diagnosis of ulcerative colitis. Repeated stool examinations failed to reveal parasites or pathogenic or aberrant bacteria. A blood count showed: haemoglobin, 12 g.%; erythrocytes, 4,300,000; leucocytes, 8,400 per c.mm. The sedimentation rate was 31 mm. in one hour (Wintrobe). Gastric analysis revealed a low acid curve.

There was no record of the medication given in the months before admission to hospital, but according to the patient it had been extensive. In the hospital, medication consisted of the administration of 15 g. of aureomycin over a period of 10 days, a bismuth mixture, compound vitamin-B tablets, and phenobarbitone, $\frac{1}{4}$ gr. (32 mg.) thrice daily during the same period. As no improvement followed, psychiatric investigation was started.

Psychiatric Investigation

Interviews of an hour each, two or three times a week, began on November 14 and continued for 10 weeks. The patient was born in New Zealand. Her mother was a Jewess, and her father a Gentile. He had been injured during the 1914-18 war, was a nervous and ineffectual person, and died in his early forties when the patient was 11 years old. Her mother, aged 68, was alive and well, and had always been a capable and domineering person, being the main financial support of the family during the patient's childhood; she was a school-teacher by profession. The patient had one sister, seven years her senior, who was a school-teacher in New Zealand.

The patient completed her secondary schooling and became a sales lady. At the age of 21 she migrated to South Africa with her mother, but her sister did not accompany them. Both the patient and her mother obtained employment in the same firm, and both had held senior positions for some years. Until the time of her marriage at the age of 33 she and her mother shared an apartment. Her past medical history was not remarkable.

Stress and Symptoms

Her symptoms of ulcerative colitis first appeared at the age of 24, following a proposal of marriage which she refused, ostensibly on the grounds of religious differences. She now feels that she refused the proposal because she was anxious about leaving her mother. The symptoms lasted about 12 months.

Four years later the symptoms returned. This episode began a few days after the arrival in South Africa of her sister, who came to pay her mother a visit. Within a few days of her sister's departure for New Zealand the symptoms subsided.

Five years later, at the age of 33, the symptoms recurred. This coincided with her husband's proposal of marriage. Many months elapsed before she finally married him, during which time the symptoms were severe. There was a remission during the weeks prior to the marriage, but on the second day of the honeymoon the colitis reappeared,

and necessitated an early return to Johannesburg and her mother. During the next two years, until the time of her admission to hospital in November, 1949, the symptoms of ulcerative colitis had continued, with only short remissions.

She described her marriage as a happy one, and this was confirmed by her husband, who was of the same age and who appeared to be understanding, pleasant, and co-operative. They both claimed that the sexual aspect of the marriage was satisfactory. They devoted a great amount of time to the patient's mother and to the husband's parents, spending each day of the week with either one or the other. The relations between the husband and his mother-in-law were very strained, and he strongly resented her domination of, and interference in, his wife's affairs, but seldom spoke about it for fear of upsetting the patient.

Psychotherapy and Progress

The whole psychotherapeutic approach was one of sympathetic understanding and support. The concepts of psychogenesis and psychosomatic disease were explained to her, and efforts were made to establish a sound rapport and to correlate the onset of symptoms chronologically with stress situations. The aim was to foster emotional dependence upon the therapy situation initially, and then to wean her of that gradually. The central theme of most of the interviews was her hostile-dependent relationship with her mother, and she eventually expressed resentment freely. After about four weeks her symptoms subsided, and there were only minor relapses during the next six weeks, at which time she would herself try to correlate the symptoms with emotional stress.

She was discharged from hospital in January, 1950, 10 weeks after the beginning of the psychiatric investigation. She was then passing one well-formed stool a day, without blood or mucus.

Progress after Discharge

Within the first few weeks after going home the symptoms threatened to return on a few occasions. This was shown by a softer consistency and an increased number of stools. She immediately communicated with me, sometimes by telephone, and after a short discussion of the immediately preceding significant social events the stools returned to normal. These events were wholly concerned with her mother.

From April 7, 1950, until June 13, 1952, she remained completely free of symptoms. During this time she had given birth to her first child, her mother had died of a coronary thrombosis, her father-in-law had died, and her mother-in-law had come to live with her; and in December, 1951, she became pregnant for the second time.

She had seen me at three-monthly intervals at my request, apart from two interviews which she asked for at the time of her mother's death.

The Relapse

On June 13, 1952, when her symptoms had been absent for over two years, and when she was in the last trimester of her second pregnancy, there was a relapse. Initially mild, within two weeks she was having 10 stools a day, accompanied by blood and mucus. Out-patient interviews were resumed for six weeks. By the fifth week of therapy she was again symptom-free, and has remained so for 16 months. Her second child is 15 months old.

During the week prior to the beginning of the symptoms in June, 1952, I had asked the patient to meet another woman suffering from ulcerative colitis, in an attempt to show her that psychotherapy had a place in the treatment of her condition. My patient became too interested and involved in the solving of the other person's difficulties, and, unknown to me, saw her twice more during the same week. The day after the third meeting she received a letter from her sister in New Zealand discussing the proposed wording of the plaque to be erected to the memory

of their mother. The wording suggested was "To live in the hearts of those we love is not to die." This had tremendous emotional significance for the patient, whose feelings of guilt became overwhelming. Next day the symptoms began.

Psychosomatic Assessment

The major personality features in cases of ulcerative colitis described by other authors are easily recognizable in this patient. She was emotionally immature, particularly in her relationship with a dominant and possessive mother, and the keynote of that relationship was the hostile-dependence which evoked a considerable degree of guilt. Her intelligence was well above average.

Environmental stress situations immediately preceded the onset of symptoms on each occasion. The situations were associated with marriage, proposed marriage, or with a threat to the security of her emotional dependence on her mother, such as the visit of her sister in 1942. It was felt that her desire for marriage and emancipation from her mother's domination was in conflict with her basic personality pattern.

The resentment, and emotional tension resulting from her conflict, apparently manifested in disturbances in the function and ultimately the structure of the lower bowel, as has been described by other authors.

This case report seems to strengthen the plea for psychiatric investigation in patients with ulcerative colitis.

Summary

The literature on the psychosomatic aspects of ulcerative colitis has been reviewed.

The report of a case of ulcerative colitis is presented in which the patient displayed disturbances in interpersonal relationships, characterized by emotional immaturity, guilt, dependence, and resentment towards a dominating mother. The stressful situations evoking the disturbances were associated with marriage, proposed marriage, and situations threatening the security of the patient's dependence.

The major personality features and the precipitating environmental factors in the report conform to those stressed by other authors.

It is felt that this case report strengthens the plea for psychiatric investigation in patients with ulcerative colitis.

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ELECTROLYTE IMBALANCE IN TUBERCULOUS MENINGITIS

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Mestrezat (1912) first focused attention on the diagnostic value of the chloride content of the cerebrospinal fluid (C.S.F.) in tuberculous meningitis, and he and other workers (Mestrezat, 1924; Greenfield and Carmichael, 1925; Foord and Forsyth, 1933) have all laid great stress on the value of a low C.S.F. chloride in the diagnosis of this disease. Merritt and Fremont-Smith (1937) observed a correlation between the chloride contents of the C.S.F. and plasma, and found a lowered concentration of chloride in the C.S.F. in any condition in which the plasma chloride concentration was low. As a low C.S.F. chloride associated with a low plasma chloride is often found in purulent meningitis, in intracranial disease, and in any condition causing vomiting, the occurrence of a low C.S.F. chloride in tuberculous meningitis cannot be regarded as being specific.

The use of streptomycin in the treatment of tuberculous meningitis has made possible the long-term study of the hypochlorhaemia and other electrolyte disturbances, of which a lowered C.S.F. chloride concentration is a manifestation. Rapoport et al. (1951) studied three children aged between 2 and 3 years by load-clearance techniques one week, two weeks, and three months respectively before death, when the patients whose food intake was poor were more or less comatose and having mild convulsions, but were not vomiting. The effects of loads of hypertonic saline, ammonium chloride, potassium chloride, and sodium thiosulphate were studied in these three children and one control. These workers concluded that, because the concentration of sodium and chloride in the urine did not fall to minimal amounts when the levels in the plasma were low, there was some "disturbance in renal electrolyte control," probably located in the proximal tubule of the kidney. At post-mortem examination the kidneys of these children were normal macroscopically and microscopically.

Further studies on the electrolyte disturbance in tuberculous meningitis were made by Harrison, Finberg, and Fleishman (1952). They investigated 16 children, finding that plasma concentrations of sodium and chloride were reduced, but that no consistent change in the potassium occurred. They found the sodium concentration in red blood cells and skeletal muscle to be increased, and the potassium to be normal in the former and reduced in the latter. Although they concluded that a disturbance governing ion equilibrium existed in these cases, no definite hypotheses on the causation were advanced.