Summary

Most cases of pilonidal sinus can be treated by excision and primary closure of the wound in preference to excision and allowing the wound to granulate—a method still commonly taught and practised. With primary closure the recovery time is shortened, and the risk of recurrence is no greater than that following the other method. The experience of primary closure in 112 cases is recorded and a technique is described.

My grateful thanks are due to Sister M. Simpson for the development of the nursing regime described above.

SENSITIVITY TO PHENINDIONE

REPORT OF A CASE OF SEVERE DIARRHOEA

BY

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The cases of severe sensitivity to phenindione described in the literature were found by Burns and Desmond (1958) to be manifested by pyrexia and blood dyscrasia, less commonly by a rash, and in two cases by jaundice. Apparently no case of severe diarrhoea produced by phenindione (" dindevan ") has been described.

Case Report

The patient, a 67-year-old retired consultant physician, had always enjoyed perfect health up till 1951, and, in particular, had an uneventful gastro-intestinal history apart from appendicectomy at the age of 28. He had had his bowels open twice a day for as long as he could remember, and the motions had always been normal.

In 1951 he had a small posterior myocardial infarction. He was initially treated with bed rest only, but when in the fourth week a phlebitis in the right leg was followed by a massive pulmonary infarct of the right lung, ethyl biscoumacetate (" tromexan ") was used as an anticoagulant. The anticoagulant therapy was continued for three months. During this illness he was troubled by severe constipation, which required several enemata a day for relief. In 1954 he was found to have a popliteal aneurysm in the right leg, for which a lumbar sympathectomy was performed. For some weeks after the operation he was again treated with ethyl biscoumacetate, which produced no certain side-effects.

Since that time, up till November, 1958, he was able to lead an active professional life. He had occasional intermittent claudication in the right leg, which became more and more troublesome during the course of 1958. His bowels had, if anything, been slightly constipated and he occasionally used a little " agarol."

Early in November, 1958, whilst gardening, he injured the big toe of his right foot; this was followed by spreading superficial venous thrombosis. At this stage it was obvious that the aneurysm of the right popliteal artery had thrombosed and that the arterial blood supply to the right foot was extremely precarious. It was also discovered that there now was an aneurysm of the left popliteal artery. He was admitted for observation to the Radcliffe Infirmary under the care of Professor P. R. Allison and Professor Sir George Pickering.

Anticoagulants were started on November 9. This time phenindione was used. Conservative treatment made little difference to the condition of the leg, and an above-knee amputation was undertaken on November 26. Before and during the immediate post-operative period, large doses of analgesics (heroin and pethidine) and of hypnotics (barbiturates) were required to allay pain and ensure sleep. If anything, he was constipated. Throughout he had been on phenindione, and the one-stage (Quick) " prothrombin time " was kept within a range of 10–20%. From about December 20—that is, about six weeks after phenindione was first used—he noticed that his stools were getting soft and bitty. He put this down to the large quantities of fruit he had been eating during his convalescence. The healing of the stump proceeded uneventfully. In view of his history and the left popliteal aneurysm, it was decided to keep him on anticoagulants for an indefinite period. He was discharged from hospital on January 9, 1959.

Shortly after his return home he developed frank diarrhoea. He initially had four to five actions a day, but the condition steadily deteriorated, and by January 25 he had developed a frank steatorrhoea, with watery white stools. At that stage he was only having barbiturate (" tuinal ") at night and phenindione in a dose sufficient to keep the prothrombin level within the therapeutic range (10–20%). The dose of phenindione varied, but was usually of the order of 50 mg. a day. Codeine phosphate, a kaolin and morphine mixture, and a low-fat diet made no difference to the condition. Phenindione seemed to be the only drug that could be responsible for the diarrhoea, and he was switched to ethyl biscoumacetate, which he had previously tolerated. Dr. John Badenoch saw the patient and agreed that clinically he appeared to have steatorrhoea.

A barium enema examination showed a few diverticula of the sigmoid colon only, and a barium-meal and follow-through examination revealed no abnormality other than intestinal hurry. Hb was 105%, W.B.C. 10,500; the film showed a neutrophil leucocytosis, and the E.S.R. was 8 mm./hour. Plasma proteins were 6.9 g. per 100 ml. (albumin 3.7 g.). Flocculation tests were negative. Bilirubin was 0.4 mg. per 100 ml. There were traces of occult blood in the stools, but no pathogens were isolated. A 24-hour stool specimen obtained on January 28 contained 39.5 g. of fat and 3.5 g. of nitrogen. The patient was put on a convalescent sprue diet and given folic acid, " multivite," vitamins A and D, calcium gluconate, and vitamin B_{12}. Before this treatment was started—that is, three to four days after he was switched from phenindione to ethyl biscoumacetate—his general condition improved, and within a week his stools became normal, with a return of his former bowel habits. On February 1 a 24-hour specimen of stool showed a content of only 10.8 g. of fat and 1 g. of nitrogen.

Although phenindione was thus suspect, it was thought unlikely that it had been responsible for the diarrhoea, and for convenience the patient was again switched to phenindione on February 11. He continued on a convalescent sprue diet with vitamin supplements as outlined above. On February 12 his motions became loose, and by the 16th they had become very loose and fluid. He had his bowels open six or seven times in the course of the day and night. The motions were now more like dysentery stools, watery, with blood and mucus. Codeine phosphate made little difference. The stools again yielded no pathogens. The blood electrolytes remained normal, and the blood picture was normal. On February 16 it was decided to discontinue all medication except the anticoagulant therapy and to revert to ethyl biscoumacetate. In spite of the exhausting diarrhoea, the patient felt hungry; he found his sprue diet quite insufficient, and was allowed a normal diet, avoiding excess fat. Within a week his stools again improved. The motions became normal and he was eating with normal appetite, and was apparently perfectly well by February 26. He has since been on ethyl biscoumacetate, which has presented no problems.

Discussion

In this patient the onset of diarrhoea occurred about six weeks after phenindione therapy had been started. By about the eleventh week he developed a frank steatorrhoea. When the phenindione was discontinued and ethyl biscoumacetate substituted, the condition improved after four to five days. At first he

received in addition a sprue diet and additional vitamins. When ethyl biscoumacetate was discontinued and phenindione substituted, the diarrhoea returned within a few days, this time as a bloody dysentery (possibly because the patient was now having a sprue diet). When the anticoagulant was changed back to ethyl biscoumacetate the condition improved after four to five days, although the sprue regime was abandoned. No clinical or laboratory findings to suggest any other cause for the diarrhoea were elicited. At no stage was there any fever, blood dyscrasia, or jaundice. The liver-function tests were not grossly deranged, although the plasma albumin (3.7 g. per 100 ml.) was a trifle low. Burns and Desmond (1958), summarizing the day of first appearance of other observed sensitivity reactions to phenindione, found that these occurred at a variable time, from 2 to 38 days after administration had begun. In the present case six weeks elapsed before the onset of any certain symptom.

Summary

A severe drug-sensitivity reaction manifesting itself by frank steatorrhoea developed in the seventh week of phenindione administration to a 67-year-old male patient suffering from peripheral vascular disease. The steatorrhoea cleared after ethyl biscoumacetate was substituted. On recommencing phenindione the diarrhoea returned, this time as a bloody dysentery, only to disappear again when ethyl biscoumacetate was substituted.

My thanks are due to Dr. John Badenoch for his help in the investigation of this unusual problem, to Dr. R. Biggs, Dr. R. G. Macfarlane, Professor P. R. Allison, and Professor Sir George Pickering for their valuable suggestions.

REFERENCE

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WHOOPING-COUGH IMMUNIZATION

CLINICAL FOLLOW-UP OF FIRST BARKING FIELD TRIAL, 1955

BY

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In our original work (Spiller *et al.*, 1955) we stated that we were following up clinically the immunized children and that we would give the results at a later date.

Two groups of children were immunized against diphtheria and whooping-cough, the one group by the combined method—that is, three injections of 1 ml. of diphtheria-pertussis prophylactic W.D.P. (red) Wright-Fleming, at monthly intervals; the other by the separate method—that is, three injections of 1 ml. of suspended whooping-cough vaccine (Glaxo), followed by two injections of 0.5 ml. P.T.A.P. The first injections were given between the ages of 2 and 5 months inclusive, and blood samples were taken at the age of 15 months in the case of 160 of these children so as to assess their antibody level. This was the original work on which we reported, and, furthermore, 52 of these children have recently been bled again, 4–4½ years after the end of primary immunization in infancy. The main object of these long-deferred bleedings was to determine the diphtheria antitoxin titres at pre-school entry age.

The Investigation

A careful clinical follow-up has been carried out on the whole 714 children who were originally incorporated in the research, so as to ascertain the number of those who did actually develop whooping-cough during the years that have followed. It may be interesting to mention here that over 300 of the children changed addresses at least once or twice during the course of the follow-up, and it required the assistance of rent offices, electoral registers, as well as health visitors, relatives, and neighbours in tracing them, as the families rarely notified a change of address. Because the blood results (agglutination titres) appeared to indicate an eminently satisfactory protection level, it may be thought that the clinical result is disappointing. It should be remembered, however, that we have not merely relied on whooping-cough notifications but have followed up individually each case by careful questioning. Many cases of doubtful cough that were not notified were accepted as whooping-cough because of various factors—for example, other simultaneous cases of suspicious cough in the family; an unusually prolonged and violent cough with no other obvious cause, and no previous history; other whooping-cough contacts, etc.

Whooping-cough Incidence. — Of the original 714 children incorporated in the scheme, 64 either lapsed in their attendance for injections or left the country and could not be followed up. Of the remaining 650 (315 in the "separate" group and 335 in the "combined") it appears that 22 almost certainly had whooping-cough, mostly in a mild form (but some were severe); and 11 were reported as doubtful cases, and *may* have had it very mildly. This gives a maximum frequency of 5.07% or a minimum of 3.38%, *over a total period of three years.*

Separate Versus Combined Injections.—Of the 22 confirmed cases, 8 had separate injections and 14 had combined injections. Of the 11 doubtful cases, 4 had separate injections and 7 had combined injections. Although it seems at first that the separate method of injection gives better protection, analysis of the figures gives $\chi^2=2.1$, $P=0.1$, indicating no significant difference.

Severe Attacks Analysed.—There were 4 children who had severe attacks, and 3 of these were immunized by the combined method; 2 of them had nearly a three-months gap between two of their whooping-cough injections and developed the disease respectively five months and one year after the last injection. The other 2 children developed whooping-cough 35 and 30 months after the last injection, so that one can assume that they were losing their artificial immunity.

Gaps.—Of the remaining 18 confirmed cases, 6 had gaps of two to three months during the course of their injections; the other 12 appeared to have attended at regular monthly intervals for injections. In the doubtful group all 11 children had attended for injections at monthly intervals—that is, there were no gaps. If we take the 33 children who had (or may have had) whooping-cough and assess the number of "gaps" of two to three months and over in their attendance we find there were eight gaps—that is, 24%. In the 617 remaining children there were attendance "gaps" in 9.7%. This difference does seem somewhat significant.