A survey was therefore made of 317 cases of diarrhoea in African children, each succeeding case being treated with phthalylsulphathiazole, sulphadimidine, and sulphaguanidine respectively, with the aim of establishing the relative merits of the "absorbable" and "non-absorbable" sulphonamides in the treatment of bacillary dysentery and non-dysenteric diarrhoea.

The average age group of the children in the series was 1 year and 8 months and the causes of the diarrhoea fell roughly into five groups: (1) proved bacillary dysentery; (2) enteric infections where salmonellae, *B. proteus*, or *B. paracolon* were isolated on stool culture; (3) enteric infections with no pathogenic organisms on stool culture and no obvious parenteral infections; (4) parenteral infections; (5) mixed enteral and parenteral infections.

It was found that all three drugs were equally effective in cases where *Shigella* organisms were isolated from the stools and gave similar results in the enteric infections of non-dysenteric origin.

If diarrhoea was found to be secondary to a parenteral infection or if mixed infections were present, sulphadimidine had a definite advantage in that, in many cases, it controlled both infections without additional chemotherapy.

Toxic reactions such as oliguria or anuria were not encountered with any of these drugs under trial, and no other undesirable side-effects were noticed.

The trial period for each drug was limited to seven days, by which time 68.2% of the cases on phthalylsulphathiazole, 69.1% on sulphadimidine, and 61.1% on sulphaguanidine were fit for discharge.

A point of considerable importance was the relatively high incidence of dual infections, showing that it was not enough to attribute the diarrhoea to an obvious parenteral infection or yet to conclude that the majority of cases would be dysenteric in origin, since the two might well coincide, with the symptoms of one sometimes overshadowing those of the other.

Therefore, in reviewing all aspects of the problem of diarrhoea in African children, and bearing in mind that not all cases are admitted to hospital or seen and treated by fully qualified medical personnel, it is essential to provide a regime of treatment which combines efficiency with ease of administration, simplicity, safety, and cheapness.

Since the "wide spectrum" antibiotics are not always available for routine use and the "non-absorbable" sulphonamides require the addition of penicillin or other antibiotics in the case of mixed infections, it is suggested that sulphadimidine could be used as a valuable general-purpose sulphonamide in the diarrhoeal diseases of African childhood.

My thanks are due to the Director of Medical Services, Kenya Colony, for permission to publish; to Dr. E. R. N. Cooke, Medical Research Laboratory, Nairobi, for the bacteriological work; and to the sisters and staff of King George VI Hospital, Nairobi, for their co-operation and help.

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CHRONIC RECTAL BLEEDING DUE TO MILK

BY

F. P. ANTIA, M.D.Bom., M.S.Ill., M.R.C.P.Lond.

Associate Physician, B. D. Petit Hospital; Consulting
 Gastro-Enterologist, Tata Memorial Hospital and
 B. J. Wadia Hospital for Children, Bombay

AND

S. H. COOPER, M.B., B.S.

The following case of rectal bleeding probably due to an allergy to milk may be found of interest.

Case Report

A woman aged 38 was admitted to the B. D. Petit Hospital, Bombay, on November 15, 1953, with a history of bleeding per rectum for the past seven years. She had been operated on for both internal and external piles about six and a half years previously. She had been passing two stools a day, semi-solid, with no evidence of mucus. Blood was passed every day either mixed with stools or after the act of defaecation as frank blood or blood clots. The bleeding was not related to straining. She had been under observation in different hospitals for long periods, but bleeding per rectum persisted. There was no previous history of dysentery or diarrhoea. Her menstrual history was normal at first, but for the last three years she had a loss every three or four months for two or three days. Her father had severe asthma, and her son had allergic rhinitis. The patient had been married for 18 years and had twins, a boy and a girl, aged 17. Her husband was short-tempered, and at times used physical violence; consequently her married life was not happy.

Physical examination showed a well-built woman. Her blood pressure was 135/90 mm. Hg. No abnormality was detected in the cardiovascular, alimentary, or respiratory systems. The liver and spleen were not palpable. Vaginal examination showed no abnormality. A blood count showed: haemoglobin, 75%; red cells 3,100,000; white cells, 8,200 per c.mm. (polymorphs 82%, lymphocytes 18%). The bleeding time, coagulation time, platelet count, prothrombin time, and fragility tests were within normal limits. Seven years ago, when the patient was admitted to the same hospital, malingering was suspected because her husband was not treating her well at home, and traumatic bleeding from the rectum was supposed to be her device to stay in hospital. This time, however, every stool passed was semi-solid with mucus and frank blood not too well mixed. Microscopical examination showed many red blood cells. Urine analysis, gastric analysis and barium meal examination showed nothing abnormal. A barium enema suggested colitis of the descending and the sigmoid colon.

On November 18 a sigmoidoscope was passed 10 in. (25 cm.). At 2½ in. (6.3 cm.) an ulcer ¼ in. (1.9 cm.) in diameter was seen. The base was not raised. There were multiple punctate haemorrhagic areas ¼ to 1/6 in. (6 to 4 mm.) in diameter, the intervening mucosa showing only slight exudation of mucus throughout and no congestion. A smear from the mucous membrane did not show amoebae and the culture was negative for any pathogenic organism. Punch biopsy from the ulcerated area showed submucous infiltration with eosinophil and mononuclear cells.

Punctate haemorrhagic spots without evidence of inflammation of the colon suggested a diagnosis of allergy. Since the commonest allergen is milk (Antia, 1953), it was decided to exclude milk allergy. On November 20 the patient was put on fruit juice and water only. The bleeding per rectum stopped on November 22—according to the patient, for the first time in the last seven years. Two soft-boiled eggs were added on November 25 and biscuits on November 27,

without any passage of blood, either macroscopically or microscopically. On November 28, in addition, half a cup of milk with half a cup of tea twice a day was started, and on the 30th bleeding per rectum recurred, continuing until the milk was stopped on December 2. Then only fruit juice, soft-boiled eggs, biscuits, and mashed potatoes were given for two days, during which there was no bleeding. On December 5 three cups of milk were added to the diet, and next day bleeding recurred, and continued until December 8. Thereafter the patient was given the routine hospital diet except that milk was stopped in all forms: the bleeding did not recur. On December 16 sigmoidoscopy showed that the ulcer had completely healed and that the colon looked perfectly healthy.

It was decided to test the sensitivity of the skin to milk and to try to desensitize the patient by small doses. However, the husband was impatient to take his wife home and she was discharged with advice to start taking one drop of milk a day and to increase it daily by one drop, as advised by Andresen (1953). The patient reported again three and six months later, when she said that, by gradually increasing the amount of milk by one drop every day, she was able to take milk in her tea (she had not ventured to take a larger amount) and that the bleeding per rectum had stopped completely.

Summary and Conclusions

The case is described of a woman aged 38 with an unusual history of bleeding per rectum every day for seven years. Any possibility of malingering was dispelled by punctate bleeding all over the colon, which led to the belief that it was probably an allergic manifestation. Milk allergy was suspected.

All diet was stopped except fruit juice and water, and for the first time in seven years the bleeding stopped. Further tests showed that bleeding restarted whenever milk was given.

An apparent lag of 24–48 hours between bleeding and starting or stopping of milk might be explained by the products of milk digestion coming in contact with the mucosa of colon (Gray *et al.*, 1940).

The patient has apparently been desensitized to milk by gradually increasing the amount by one drop a day.

Our thanks are due to the Superintendent, B. D. Petit Hospital, for permission to publish this case

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A good year, continuing the progress of the last few years, is reported by the British Empire Leprosy Relief Association for 1954. Every request for financial help to build homes for child patients was met, and by the end of the year 1,916 children were in the care of Belra in 23 different centres. The policy for treating adults has been to concentrate on out-patient care rather than on enforcing isolation, because the application of sulphone treatment depends on early diagnosis, which out-patient care facilitates. Two rural centres have been established in Tanganyika, a nurse has been posted to Northern Nigeria and a worker to Southern Nigeria to open treatment clinics throughout these neighbourhoods, and the number of Belra men on the Gold Coast working with the Government has been increased from one to eight. Many cases still need institution treatment, and for these a pilot leprosarium and a Red Cross Hospital are due to be opened in Tanganyika. Research on leprosy and in the allied field of tuberculosis is being carried on with the co-operation of the East Africa High Commission and the Medical Research Council.

Medical Memorandum

Ischaemia of Lower Limb as Cause of Motor Accidents

In view of the appalling number of road casualties in this and other countries, and the constant search for remedies, it is thought that the case described here will be of interest. It illustrates a possible cause of motor accidents which is not widely recognized.

CASE HISTORY

A lorry driver aged 58 was referred for medical examination because he had been involved in numerous minor accidents. The nature of these accidents suggested either that his eyesight was defective or that he was grossly careless. He denied any eye trouble, or that he was unfit in any other way. He attributed his accidents to "bad luck" or "bad judgment."

On examination he was a grey-haired, rather elderly-looking man. His visual acuity and colour vision were normal. The only abnormal physical signs were a grossly deficient blood supply to the right foot—the right dorsalis pedis and posterior tibial arteries being impalpable—and diffuse loss of sensation over the sole and medial four toes of the right foot.

After the examination he admitted that his foot occasionally felt numb, so that he was unable to feel the brake pedal or accelerator when he was driving. Henceforth he was not allowed to drive on the public highway, but only on his firm's private roads. His private doctor was told of the disability, but the patient was not referred to a hospital for further investigation.

Five months later his right big toe became septic after minimal trauma, and he was treated at a hospital casualty department. When he reported for work a few days later his toe was partly gangrenous; he was referred to another hospital, where he was admitted. Here he was found to have an inflamed swollen hallux with a slough of the top part of the nail-bed. The right dorsalis pedis and posterior tibial arteries were still impalpable; and there was impaired sensation over the sole of the foot, which was inconstant and disappeared when the foot was warmed. A radiograph showed bony destruction of the tip of the phalanx of the right hallux, but the results of other investigations were normal.

Subsequently the dead bone in the toe was excised, and after graduated exercises he was discharged. He was no longer allowed to drive.

COMMENT

Arteriosclerosis is so common and widespread a disease that cases similar to the one described are probably not uncommon; especially when so many old people are allowed to drive cars.

In this case it was thought that the impaired blood supply to the foot caused an ischaemic neuropathy. As Cohen (1954) has pointed out, patients with ischaemic nerve lesions can present with slipper anaesthesia of the foot, a delayed response to pain or pressure, or wasting and paresis of the intrinsic muscles of the foot. Recovery from an ischaemic nerve lesion is slow, and the sole of the foot may remain numb.

Doctors should bear in mind the potential liability of such patients to their employers, and their potential danger to the public if they are allowed to drive motor vehicles. Casualty officers should always look for peripheral vascular disease as a cause of chronic infection or ulceration of the feet and toes. A gangrenous toe is usually recognized as such; but the fact that it may indicate a major arterial block high up in the limb (Leriche, 1940) is not so widely appreciated.

F. L. DAVIES, M.B., F.R.C.S.

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