

Its low toxicity when given per os calls for a revision of the maximum dose of scopolamine—and probably of some other alkaloids too—as fixed by the official pharmacopoeias.

In forensic medicine the consequence will be that no injury can be expected from a dose of 3 to 4 mg. of scopolamine given by mouth. (It was only after 8 years that the nurse was taken before a higher court and, on the basis of this investigation, rehabilitated.)

In all the experimental subjects here employed the symptoms characteristic of scopolamine effects were observed to make their appearance in the same chronological sequence: (1) After 15 to 30 minutes, reduction in the rates of the pulse and respiration. (2) After 30 to 45 minutes, dryness of the mucous membranes of the mouth, nose, and throat; a little later, moderate muscular atony and moderate drowsiness. (3) Pronounced dilatation of the pupils was seen only in a minority of the cases—generally beginning after 60 minutes and reaching its maximum after 120 minutes. (4) Symptoms of excitation were seen in a few cases, especially elderly persons, but not until 120 minutes after ingestion of the drug.

After *subcutaneous injections* of 0.5 mg. the sequence of the symptoms was the same as after peroral administration, but their development was somewhat more rapid and their intensity more pronounced.

CARCINOMA OF THE RECTUM IN SISTERS

BY

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Multiple polyposis of the colon in siblings was first described by Cripps (1882), and Doering (1907) first noted the frequency of malignant change in the condition. The condition is rare, since, although Stewart (quoted by Sawyer, 1940) found polypi in 4% of children, very few of these were multiple. Statements as to the frequency of malignant change vary. In Doering's original series there were 21 carcinomas in 40 cases of polyposis, Sawyer (1940) found malignant change in 40% of cases in a review of several series, while Friedell and Wakefield (1943) found only two carcinomas out of 19 cases. Many of the last series, however, were in children, and would not have been diagnosed without a special search. Genetically determined polyposis may not arise until middle life (Lockhart-Mummery, 1925), and seems to appear earlier in successive generations of the same family (Friedell and Wakefield, 1943). The earlier literature is reviewed by Dukes (1930).

Recently I have observed the following two cases of carcinoma of the rectum in young sisters. One had multiple polyposis of the colon and the other multiple telangiectases. Carcinoma of the rectum in siblings of this age is so rare that one must conclude that there is some connexion between the three conditions. The father of the sisters was killed in 1917, and they were his only children. Their mother is alive, and has three children by a second husband. The eldest of these is 25; all are well, and none have ever had any bowel troubles.

Case Histories

Case 1.—Edith was mentally defective, though she earned her living as a domestic servant. From the age of 4 she was cared for by nuns, who noticed nothing wrong with her bowels. Before this she is said to have had "tuberculous bowels," but her mother can give no grounds for this statement. At the age of 29 she was admitted to hospital with a very vague history of diarrhoea and passage of blood per rectum, was *in extremis*, and died a few days later. At necropsy the body was that of a poorly developed young woman, with foul teeth and many sebaceous cysts of the scalp. There was extensive bronchopneumonia, and a malignant ulcer at the pelvi-rectal junction with metastases in the para-aortic lymph nodes and in the liver. There were many polyps throughout the colon. The intervening mucosa appeared quite normal.

Case 2.—Maud, aged 32, was the sister of Edith. She presented herself at an antenatal clinic, pregnant for the first time, and gave no history of any upset of the bowels. However, a carcinoma of the rectum was discovered, and hysterectomy and colostomy were performed. She died seven months later. At necropsy a mass of growth filled the pelvis, and there were metastases in all the abdominal lymph nodes, the liver, and the peritoneum. Below the hepatic flexure the colon showed numerous minute bright-red telangiectases, each about 2 mm.

across, and separated from the next one by 2 cm. of normal mucosa. The rectum was buried completely in the mass of growth, and the exact origin of the tumour could not be determined.

Comment

From the last Census it appears that there were 3,353,100 women alive at that time between the ages of 25 and 35. In the same year 23 women in the same age group died of carcinoma of the rectum (Registrar-General's Annual Report, 1931). On any system of probability it is extremely unlikely that sisters will die of the same condition which has a death rate of only 2.3 out of a population of some 335,000. There would appear, therefore, to be statistical support for the contention that the conditions found in these women's colons were in some way connected and were also responsible for the development of their carcinomas.

I have to thank Mr. G. F. Stebbing and the Chief Medical Officer of the London County Council for permission to publish the second case, and for the kind invitation to perform the necropsy in Lambeth Hospital, where that patient died.

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Medical Memoranda

Jejunal Diverticulosis Complicated by Haemorrhage

The following case may be considered unusual enough to merit publication.

CASE HISTORY

A man aged 73 was admitted to hospital on May 26, 1945, with a history of severe rectal haemorrhage for 24 hours. The onset was sudden and painless, the blood being dark at first but bright in colour later. He had had no previous attacks and had been in perfect health until three months previously, when he had developed pain in the upper abdomen two to three hours after meals, anorexia, flatulence, and slight loss of weight.

On admission he showed all the signs and symptoms associated with severe haemorrhage; the blood pressure was 80/50 and the haemoglobin 52%. A transfusion of 3 pints (1.7 l.) of blood was given. After passing several melaena stools his condition settled down. The following investigations were carried out: (1) A test meal showed complete achlorhydria. (2) A barium meal revealed a hypotonic but otherwise normal stomach; the diverticula were not visible, but there was slight delay and partial obstruction in the upper jejunal coils. (3) A barium enema showed diverticulosis of the descending and the pelvic colon.

A laparotomy was performed on June 26. Eight diverticula were found in a segment of 14 in. (35.5 cm.) of the proximal jejunum, the first one being situated 4 in. (10 cm.) from the duodeno-jejunal flexure. The largest of these was 1½ in. (3.8 cm.) in diameter and contained a stony-hard and sharp concretion; the diverticulum stood out from the others and was discoloured, while the surrounding mesentery was congested. The rest of the intestinal tract was carefully examined and no further abnormality was found other than diverticulosis of the colon, seen in the skiagram. Resection of the affected loop with an end-to-end anastomosis was performed. A post-operative glucose-saline drip was set up and continuous gastric suction maintained for five days. The patient was discharged from the hospital on Aug. 8, and has been perfectly well since.

DISCUSSION

Diverticulosis of the jejunum is a relatively rare condition, though it is possible that many cases are overlooked, as they are often symptomless and may be difficult to demonstrate at necropsy. By insufflating the intestine *in situ* Rosedale and Lawrence (1936) found 4 cases in 300 consecutive necropsies. The diverticula are of the mucous-membrane-hernia type, similar to those found in the duodenum and colon. They may be single or multiple, as many as 400 having been present in a single case. The upper coils of the jejunum are affected most commonly, but the diverticula may extend on to the ileum. They occur along the mesenteric border where the main arteries pierce the muscular coats, and they push their way between the layers of the mesentery.

The first description appears to have been made in 1807 by Sir Astley Cooper, who found numerous pouches of the jejunum at a post-mortem examination on a man of 65. The aetiology

and incidence have been discussed in recent years by Butler (1933), Fraser (1933), Rosedale and Lawrence (1936), and Edwards (1939). Gerster (1938) reviewed the literature and found 187 published cases. Of these the majority were discovered accidentally at necropsy, during operations for other conditions, or during radiological examinations. Since then several more cases have been described by Edwards (1939) and Milnes Walker (1945). Flatulent dyspepsia and vague upper abdominal pain are among the symptoms present.

The complications of jejunal diverticula are as follows. (1) Acute diverticulitis, with or without perforation, abscess formation, or intestinal obstruction. This is the commonest complication, and 23 cases have been reported. (2) Acute intestinal obstruction due to concretion formation or volvulus (9 reported cases). (3) Traumatic rupture (1 reported case—Butler, 1937). (4) Haemorrhage: Guthrie and Hughes (1937), Tengwall (1931), and Braithwaite (1923) described cases in which haemorrhage was the leading symptom. In each instance the diagnosis was made at operation and recovery followed resection of the affected portion.

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Small-bowel Obstruction due to Dried Fruit

In view of the cases of obstruction by dried fruit reported in the *Journal* last year, it was felt that a further case might be of interest. As in the case reported by Dorling (*B.M.J.*, 1945, **2**, 426), the obstructing cause was a dried peach.

CASE RECORD

The patient, a woman aged 71, was admitted on April 22, 1945, complaining of abdominal pain and vomiting. Her history showed that she had been constipated for the 60 hours before admission. Her bowels had previously been regular. The vomiting had started 60 hours before admission, and had occurred six or seven times on the first day. The vomit was green in colour. In the 24 hours preceding admission she had vomited twice. The vomit was now brown. For 17 hours before admission attacks of abdominal pain occurred every five to ten minutes, and these were relieved by vomiting. The pain was localized to the umbilicus. Twenty years ago she had been advised to have a cholecystectomy, but had not undergone the operation. She had never been jaundiced, and had never had a similar attack before.

On admission her temperature was 98.4° F. (36.9° C.), pulse 100, respiration rate 20, and blood pressure 160/90. The tongue was dry and furred. Examination of the abdomen revealed no undue distension, visible peristalsis, or sign of a hernia. On palpation there was slight tenderness in the left iliac fossa, otherwise nothing abnormal was found. Intestinal sounds were not increased. Plain skiagrams in the supine position demonstrated gaseous distension of three loops of bowel in the left iliac region. In view of her poor general condition operation was deferred; an intravenous drip of glucose-saline was started, and gastric suction carried out through Ryle's tube. The pain had not recurred after she came into hospital. Twenty-four hours later she again complained of abdominal pain and her abdomen was more distended. Her general condition had, however, improved. Increased intestinal sounds were now associated with the colic, and were heard best in the left iliac region. In view of her past history, gall-stone obstruction was diagnosed.

At operation the abdomen was opened through a right paramedian incision, under a spinal analgesic—2 ml. of heavy percaine. A small quantity of free fluid was present in the peritoneum, and a soft mass palpated in the left iliac fossa was found to be in the ileum, 2 ft. (30 cm.) from the ileo-caecal valve. The bowel above this mass, which was about 3 in. (7.6 cm.) by 1½ in. (3.2 cm.) in dimensions, was dilated, and, below, was collapsed. The mass was easily pushed up into the proximal dilated bowel and was removed through a longitudinal incision through the bowel wall. The bowel was closed in two layers transversely. The patient made a good recovery and was discharged on May 22, 1945.

On questioning her during convalescence she admitted that she had been preparing dried fruit five days before her admission and had nibbled at a dried peach. She was not very definite whether or not she had swallowed this, but the supposition was that, as she had only one tooth in her head, an upper incisor, this was indeed the case, since the mass itself, when opened out, very closely resembled the half of a peach.

My thanks are due to Mr. T. Meyrick Thomas, under whose care the patient was, for permission to publish this case.

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Reviews

ORTHOPAEDIC TREATMENT OF INFANTILE PARALYSIS

Traitement Orthopédique de la Paralyse Infantile. By M. Boppe. (Pp. 222; 118 figures. 170 francs.) Paris: Masson et Cie.

This work is said to be based upon the experience of ten years in observing, treating, and following up a large number of cases of infantile paralysis. As such it might be expected to be narrow in outlook—actually it does reflect admirably the views and methods of the great French school of orthopaedics. It is a pity that the literature of our two countries is not more readily available. Orthopaedics in general owes much to the great French pioneers, from Delpeche, André, Malgaigne, and Bonnet down to the present day. It seems that in Britain we still have something to learn from our neighbours, but this book also suggests that our friends should be more familiar with our literature. The treatment of infantile paralysis should be based upon accurate recording of muscle loss. Anglo-American methods of recording muscular activity are apparently not used in France. A vast section of the field of orthopaedics is covered with characteristic French thoroughness. It illustrates once more that mastery of the orthopaedic problems of infantile paralysis provides a fundamental training for the would-be orthopaedist, including as it does questions of diagnosis; careful clinical examination of the locomotor system; the prevention of deformities, and the limitation of disability; the use of orthopaedic apparatus; operative surgery; rehabilitation in all phases, and resettlement of the disabled.

FOOD AND NUTRITION

Science and Nutrition. By A. L. Bacharach, M.A., F.R.I.C. Preface by Sir J. C. Drummond, F.R.S. (Pp. 142. 5s.) London: C. A. Watts and Co., Ltd.

The first edition of Mr. Bacharach's book was referred to at length in a leading article published in the *Journal* of Oct. 29, 1938, under the heading of "Food and Nutrition." We said then that it provided a refresher course in "classical nutritional science." In his second edition the author has done more than "repeat the mixture as before," because the book has been thoroughly revised and in parts rewritten. It is written in good strong English, and in these days, when problems of nutrition weigh so heavily upon us all, we can think of no surer guide to the practising doctor who wants to know the why and wherefore of diet constituents. Mr. Bacharach has the gift of thinking clearly and expressing his thoughts clearly. He takes the reader firmly along the path of exact knowledge, and gives him a real insight into the way the nutritional scientist tackles the matter of food and feeding. His sectional headings describe the scope of the book: "The Experimental Basis"; "Classical Nutritional Science"; "Minerals"; "Vitamins"; "Diet and Human Health." He has certainly succeeded in carrying out his object of steering "a very careful course between scientific inexactness on the one side and excessive detail on the other."

There are but a few points of criticism to make. His observation that "faeces are not really excreta at all—since they represent food that has not been digested at all or those parts of the food that have not" might be challenged. For example, faeces continue to be formed during starvation, and also form in a segment of bowel isolated from the rest of the intestinal tract. Although we may believe that partial deficiencies may be responsible for much "general ill-defined bad health," the evidence is not secure enough to justify the dogmatism implied in Mr. Bacharach's remarks.

In his last chapter, "The Necessity for the Optimal," he admits that he lays himself open to the charge of dogmatism. Few people would disagree with him that the optimum, and not the minimum, diet is the one to aim at for all, or that "a far greater improvement would result from securing that all who serve the community by working are so remunerated as to make adequate expenditure on food possible for all." But surely it is inaccurate to state that an optimum diet "is immeasurably beyond the reach of the average, or even the best paid, urban industrial worker . . ." (our italics). An