Control of Sonne Dysentery

Many infectious diseases of childhood have undergone a spectacular decline, but transmissible diarrhoeas continue to remain a burden to sufferers, family doctors, and public health and education services. In England Sonne dysentery is common, and it is disappointing that outbreaks should still be so frequent and often inadequately managed. The disease can be readily diagnosed—bacteriological confirmation is possible in 90% of cases—and its method of transmission is common knowledge. In short it is largely preventable. Why then are outbreaks so difficult to control?

This unsatisfactory state of affairs may be influenced by beliefs that the disease is always so widespread throughout the general population as to defy control and that when outbreaks occur specific measures are unrewarding. Neither of these assumptions is true. Two recent papers by M. E. M. Thomas and H. E. Tillett1 2 report the findings of the first long-term study of the epidemiology of Sonne dysentery in England and describe the measures of control found useful.

During their 16-year period of study, which was made in Enfield, Middlesex, Sonne dysentery accounted for no less than 10% of acute diarrhoeal illnesses investigated. But despite the large number of cases diagnosed during epidemic years the disease was never ubiquitous. Outbreaks of Sonne dysentery were virtually confined to situations in which large groups of children up to the age of 10 years were brought together in close contact. Thus they occurred only in primary schools and nurseries; there were no outbreaks in secondary schools. Moreover, only a small number of schools and nurseries were affected at any one time, and the problem was therefore manageable. The incidence was very low in adult men, and the greater exposure of mothers of young children was probably responsible for the higher case rate in adult women.

Sonne dysentery was not invariably a mild disease, for 4% of cases were admitted to hospital and 40% had blood or pus or both in the stools. Excretion of Shigella sonnei often lasted for less than two weeks, but about one in five children were still excreting it—some intermittently—one month after the onset of symptoms. Spread of infection to other members of the household was common. More than 40% of all children exposed in the home and 20% of adults became infected.

The authors’ second report, which deals with the control of dysentery, indicates that outbreaks of Sonne dysentery in primary schools are best dealt with by the immediate exclusion of all children in whom recent diarrhoea is suspected. In Enfield the medical officer of health requested head teachers to cooperate in excluding suspects and reminded them to do so at regular intervals. Children excluded as suspects were not readmitted until bacteriologically clear.

The occurrence of an outbreak should be the signal for careful supervision of hygiene. After using the lavatory each child should be supervised while the hands are washed under running water and finally dipped in an appropriate disinfectant. Shared towels and stagnant basins of water are unsuitable. The importance of hand washing is such that in Enfield aides were employed as necessary to supervise toilet hygiene during school outbreaks.

The measures adequate for primary schools were not found sufficient for day nurseries. Experience in Enfield suggests that for the latter the best way to end an outbreak of dysentery quickly is to close the nursery for a few days for thorough cleaning. Every person in the nursery—children and staff—should then have adequate negative bacteriological clearance before being readmitted. At all times in-tending newcomers to a nursery should be screened for intestinal infection and parasites. Finally, it was considered important that health departments should be able to arrange for schools and nurseries to have direct access to a laboratory for the diagnosis of diarrhoeal disease. Taken together such relatively simple procedures could probably do much to reduce the incidence of Sonne dysentery.

Radiological Aspects of Familial Medullary Carcinoma of the Thyroid

Medullary carcinoma of the thyroid is a tumour of the parafollicular C-cells, which produce calcitonin. These tumours comprise up to 10% of all thyroid cancers. They occur both sporadically and as part of a familial endocrine syndrome.

Recently K. D. Pearson and his colleagues1 have described the radiological features of the familial syndrome in a study of 21 members of a family with medullary carcinoma of the thyroid, adrenal phaeochromocytoma, and parathyroid hyperplasia. Tumour calcification was found in 7 of 19 patients studied. They usually had large, discrete calcified areas in the neck, which differed from the psammomatous calcification seen in papillary thyroid carcinoma. Similar calcification was observed in metastatic deposits in lymph nodes and the liver. Only one patient with a phaeochromocytoma had calcification in the adrenal tumour, which appeared as a thin calcified rim.

Metastases in the lungs were interstitial nodules with a fibrotic appearance. They later showed pulmonary hyperaeration, findings previously observed by S. Wallace and colleagues.2 Metastatic nodules were most prominent in the mid-lung, unlike other diffuse thyroid pulmonary deposits, which are predominantly basal. Bone metastases were primarily osteolytic, but sclerotic and lytic-sclerotic deposits also occurred.

Chondrocalcinosis was observed on X-ray examination of the knees and wrists, and aspiration in one patient confirmed the presence of calcium pyrophosphate crystals. No radiological evidence of hyperparathyroidism was detected in the patients with chondrocalcinosis, but one had parathyroid hyperplasia at operation. Presumably some alteration in calcium metabolism associated with raised levels of calcitonin and parathyroid hormone was responsible for the cartilage calcification, since none of the other conditions known to be associated with "pseudo-gout" could be detected. Hyperparathyroidism due to parathyroid hyperplasia or adenoma may be associated with medullary carcinoma of the thyroid, but bony signs of parathyroid disease are uncommon.

Gastrointestinal symptoms are associated with medullary carcinoma of the thyroid, particularly diarrhoea, which may be the result of humoral factors secreted by the tumour.3 Some patients show radiological evidence of a megacolon4 associated with ganglioneuromas of the bowel. Various arteriographic changes may be observed, including increased vascularity of the tumour, filling defects of varying size and

number, and displacement of the inferior thyroid artery. None of these are specific to the condition.

Venous sampling from catheterization of the thyroid venous bed usually shows raised levels of calcitonin and parathyroid hormone on both sides of the neck, higher values being obtained than in the peripheral circulation. Sampling in this way does not appear to have much value in diagnosis, which is more easily achieved by peripheral sampling for calcitonin with or without calcium infusion. The characteristic radiological features of the familial syndrome can be of help in the diagnosis of this thyroid tumour and complement the more specific histological and hormonal abnormalities.

Abdominal Cysts

Intra-abdominal cysts lying behind the peritoneal cavity or between its leaves—in the mesentery and the omentum—are unusual, rarely diagnosed with accuracy before operation, and interesting. They can be grouped together conveniently from both clinical and pathological aspects. R. M. Handfield-Jones defined retroperitoneal cysts as “those cysts lying in the retroperitoneal fatty tissues which have no connection with any adult anatomical structure save by areolar tissue.” This definition applies well enough to the others. A cystic mass in the retroperitoneal area is most likely to have origin from the kidney or the pancreas, but these do not fall within the definition of a true retroperitoneal cyst.

Usually the cysts are single, unilocular or multilocular, with contents that range from clear and straw-coloured through chyleous fluid to thick, cheesy material. They may or may not have an epithelial lining. There may be evidence of recent or past intracyst haemorrhage. Calcification may take place and malignant change is rare. Other complications include rupture, infection, torsion, and pressure on adjacent structures.

Oliver Beahrs and his colleagues at the Mayo Clinic have provided a convenient aetiological classification for these swellings into four main groups. The first are embryonic and developmental cysts. These include enteric cysts, usually situated in the mesentery of the lower ileum. They are unilocular, contain yellowish-brown mucinous fluid, and represent sequestration from the intestine. Urogenital cysts represent Wolffian remnants and are commoner in females than males. Also in this group are lymphatic cysts, arising from embryonic defects in lymph tissues, and finally dermoids, which contain skin derivatives such as sebaceous material, hair, and even teeth. The second group are traumatic in origin and result from organization of a haematoma. The third group are neoplastic. The growths may be benign or malignant and include lymphangiomas. The fourth group are infective and degenerative cysts of mycotic, parasitic, or tuberculous origin.

The parasitic cysts are hydatids, and the tuberculous cysts result from caseating tuberculous mesenteric adenitis.

Clinical features of this condition have recently been well reviewed by A. R. Walker and T. C. Putnam, of the University of Rochester School of Medicine, New York, who collected 33 examples of operatively confirmed omental, mesenteric, and retroperitoneal cysts, an incidence of one case per 35,400 hospital admissions. Six were in males, 27 in females; the age ranged from the newborn to 76 years. Thirteen of the cysts were omental, 18 mesenteric, and 2 retroperitoneal. Three females with mesenteric cysts were incompletely detailed, but of the 30 fully documented patients 5 presented as emergencies (1 with haemorrhage, 1 with torsion, 2 ruptured, and 1 with obstruction). 13 underwent elective operation for the mass, and 12 were incidental findings at other operations. A small cyst is likely to be asymptomatic and impalpable and therefore discovered only incidentally at laparotomy. In the 12 such cases in this series only three were larger than 4 cm in diameter and the smallest of the clinically significant cysts was 6 cm in diameter. An accurate preoperative diagnosis is also unlikely in the acute cases, in which abdominal rigidity may prevent palpation of the mass. Walker and Putnam suggest that more accurate preoperative diagnosis might be possible in the symptomatic but non-acute cysts. The masses are usually described as being smooth, round, mobile, and non-tender. Retroperitoneal cysts are likely to be relatively fixed, omental cysts are mobile in all directions, and mesenteric cysts tend to be more mobile in the transverse than in the cephalo-caudal plane. Cystic masses which appear to be tethered to the pelvis are more likely to originate from the uterus, ovaries, or bladder.

Often the patient complains of pain, which may be due to stretching of peritoneum on the root of the mesentery. Subacute obstruction may result from extrinsic pressure on the intestine. X-ray studies are of considerable importance. A plain film of the abdomen often shows a soft-tissue mass, perhaps with calcification. A lateral view of the abdomen may show that the mass lies anterior to the intestines, which suggests the possibility of an omental cyst. A barium meal and follow-through and a barium enema x-ray examination may show bowel displacement and rule out primary disease of the alimentary tract. Similarly, intravenous pyelography excludes a renal lesion, though it may show obstruction or displacement of ureters or compression of the bladder. Selective superior mesenteric angiography has been carried out in one case of mesenteric cyst but was normal. In one further example it was of some diagnostic assistance.

Walker and Putnam conclude that there are no diagnostic clinical characteristics which permit an accurate preoperative diagnosis in these lesions. However, such cysts should be suspected in any patient with a mobile abdominal mass, with or without chronic pain, in whom plain and contrast x-ray studies of the abdomen show the mass to be extrinsic to the alimentary and urinary tracts.

1 Handfield-Jones, R. M., British Journal of Surgery, 1924, 12, 119.