silver disulphonate without any preliminary cleaning, followed, as with all other antiseptics hitherto employed, by the insufflation of acetarsol compound powder in non-pregnant cases, together with the use of acetarsol compound pessaries daily during the course of treatment. In none of the cases was a relapse reported within six months.

Dinaphthalene methane silver disulphonate in 1% solution is now used as a routine in all cases of trichomonal vaginitis and also for pre-operative and post-operative sterilization of the skin in obstetrical and gynaecological operations.

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Medical Memoranda

Schistosoma Mansoni Infection

The success which attended the treatment of urinary schistosomiasis in African school-children with a short concentrated course of miracil D (Blair *et al.*, 1949) suggested that the drug might be given a trial in two cases of *Schistosoma mansoni* infection in European children in Kenya. Both cases had previously been resistant to treatment with antimony preparations. The children probably contracted the infection in 1946, when paddling in a stream within the Nairobi Municipal Boundary.

CASE REPORTS

Case 1.—A boy aged 10½, weight 37 kg. on May 20, 1949, had had 108 injections of various antimony preparations at different times in the past three years. Examination of his faeces in May, 1949, still showed large numbers of viable eggs. Following the advice of Dr. Blair he was given miracil D orally, 27 mg. per kg. of body weight daily, for three days. The drug was dispensed in gelatin capsules, each containing 200 mg. to minimize the gastric irritation sometimes produced by the plain powder or tablet. In spite of this precaution he vomited repeatedly after the third dose. Some milk was given, which seemed to allay the sickness, and the treatment was continued. The remainder of the course was marked by only a little nausea and vomiting on the third day. Some discoloration of the skin was apparent, reminiscent of that seen during mepacrine prophylaxis of malaria, but this faded and disappeared within a week. There was no jaundice and neither the liver nor the spleen was enlarged. The urine during treatment was an orange-yellow colour. For a week after treatment he was lethargic and uninterested in his food, but thereafter became his usual cheerful self.

Case 2.—A brother of the patient in Case 1, aged 12, weight 33.6 kg. on June 5, 1949, also had viable eggs present on examination. He had not had as many injections as his younger brother, as at one time he was thought to have been cured. He was given "tabloid nilodin," an enteric-coated preparation of miracil D, in the same dosage—that is, 27 mg. per kg. of body weight daily for three days. Apparently nilodin causes much less gastric irritation than miracil D in capsules, for he had very little nausea and no vomiting during the course.

Weekly stool examinations for two months disclosed no ova. The Cercarial antigen test (Blair and Ross, 1948) was performed on both cases in July, 1948, with locally prepared antigen (after the formula of Blair *et al.*) and was then strongly positive. The tests were repeated on July 27, 1949, some two months after treatment, and were found to be negative. Many further samples of stools have been examined since then, the last occasion being in March, 1950. All have been negative, so one may take it that the cure is complete.

S. mansoni infections in the past have been notoriously resistant to treatment with antimony. While miracil D

(ni'odin) has produced a most satisfactory percentage of cures with *S. haematobium* infections it has not been as successful with *S. mansoni*.

Our thanks are due to Dr. D. M. Blair, of the Schistosomiasis Research Laboratory, Salisbury, for his helpful advice, and to Messrs. Burroughs Wellcome and Co. for a supply of tabloid nilodin.

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Association of Achalasia of Cardia with Oesophageal Carcinoma

In view of the fact that I have seen a second case of this condition so soon after reporting a similar case (Baer and Sicher, 1947) it seems desirable to record the details.

Although two such cases hardly show that the condition is a frequent one, the rapid appearance of this second case does lend weight to the previous suggestion that achalasia produced conditions favourable to the subsequent development of carcinoma, and that if the possibility of its occurrence was more widely recognized it would be discovered more often. The difficulties of diagnosis are certainly very real, and the importance of oesophagoscopy in checking any doubtful cases cannot be over-emphasized.

CASE REPORT

A married woman aged 49 had panhysterectomy on November 27, 1947, for carcinoma of the body of the uterus; this was followed by deep x-ray therapy. The pathological report revealed a highly differentiated papillary adenocarcinoma. She was followed up and found to be progressing satisfactorily. On her visit in April, 1949, she reported "tightness across the chest" and difficulty in swallowing solid foods. On closer interrogation she admitted that she had had this swallowing difficulty on and off for about 10 years; recently, however, it had been increasing in severity, and the periods free from it had become shorter. She could take fluids and semi-fluids with ease, but the solid food caused the discomfort. In the last six months she had lost several pounds in weight.

On examination, her general condition was found to be good; no abnormal signs were found on physical examination, and a straight x-ray film of the chest was normal. The report on the barium swallow was as follows: "Marked dilatation in the oesophagus due to cardiospasm. Constriction in the oesophagus at the junction between mid and lower thirds with ? filling defect on the right below this."

Oesophagoscopy was performed on May 27, 1949, with the following findings: "Oesophagus full of food: ulcerating growth at about 7 cm. from cardia: cardia in spasm. Dilated with bougies and a Negus hydrostatic bag." A biopsy was carried out and the pathological report was: "Section shows the features of an exceedingly cellular and anaplastic squamous carcinoma."

The patient was then referred to Mr. J. Leigh Collis for the opinion of a thoracic surgeon, and was admitted to the Queen Elizabeth Hospital, Birmingham. Pre-operative investigations revealed a secondary anaemia with haemoglobin at 68%. Electrocardiography indicated no cardiac defect. A further oesophagoscopy showed a "typical appearance of achalasia: massive growth seen at 31½ cm." She was given a blood transfusion, and oesophagectomy and gastro-oesophagostomy was performed on June 18.

A large growth was found midway between the arch of the aorta and the diaphragm. It was resected and continuity of the alimentary tract was established by an anastomosis between the stomach and the oesophagus. The whole operation went satisfactorily and the patient was in fair condition in the

ined by Professor J. W. Orr, of the Birmingham University, and the original histological diagnosis of a squamous-celled carcinoma was confirmed. The accompanying photograph of the specimen shows the wide extent of the growth.

COMMENT

The striking features in this case were : (1) Long-standing achalasia, symptom-free for nearly 10 years without any treatment ; (2) short duration of increasing dysphagia for solid foods : semi-solids and fluids were well tolerated ; (3) loss of weight not proportional to the intake of nourishment, and absence of symptoms of any obstructive organic lesion until recently in spite of the presence of a large growth.

Finally, I should like to repeat the plea not to be satisfied with the diagnosis of achalasia until presence of a growth has been excluded by oesophagoscopy. I would even advise that each known case of achalasia should be followed up at regular intervals, as only in this way can an early diagnosis of carcinoma be made and the patient be saved.

I wish to thank Mr. J. Leigh Collis for his help in this case.

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Treatment of Tropical Ulcers by Food Yeast

On taking up an appointment in Jamaica in September, 1947, I found a considerable number of cases of tropical ulcer among the labourers and their families, and more especially among those doing temporary work. The ulcers were usually of long-standing (from two months to two years), were resistant to treatment, and often broke down.

The available literature on the subject suggested that the ulcers might be due to a vitamin deficiency, as no specific organisms had ever been found. However, no reference was made to the ulcers actually having been treated as a vitamin deficiency, and the existing forms of treatment were admittedly disappointing.

That the ulcers were due to a vitamin deficiency seemed likely to me because (1) they occur chiefly among people suffering from malnutrition, particularly among those whose diet is deficient in vitamin B, and (2) they occur mainly in tropical countries, particularly during and towards the end of the hot season, when the body stores of vitamin B will have been further depleted by increased sweating (recent work having shown that vitamin B alone is excreted in the sweat). I therefore decided to treat the ulcers as a vitamin-B-deficiency disease. Dried "torula yeast," produced by Colonial Food Yeast Limited, a Government-sponsored concern, was used.

immediate post-operative phase, but two days later she had to be bronchoscoped because there was complete blocking of the left main bronchus. The same night she suddenly collapsed and died. Permission for necropsy was not obtained, but the specimen was examined

The first six cases healed up extraordinarily quickly—in a matter of three to four weeks. The ulcers varied in size from $\frac{1}{2}$ to 5 in. (1.25 to 12.7 cm.) in diameter. The next 30 cases were divided into two groups: (1) Those receiving the yeast treatment, which consisted of (a) powdered yeast applied to the surface of the ulcer and sealed down with "elastoplast" and left untouched for one to two weeks, and (b) 1 dr. (4 g.) of yeast in food three times daily until the ulcer was healed. (2) A control group receiving any of the treatments advised in the books, which included: sealing down with elastoplast alone, "acetylarsan" injections and local application of acetylarsan, and local and general use of sulphonamides or penicillin.

In group 1 cases the success of the first six cases was repeated with the exception of four cases which were Kahn-positive and took much longer to heal (three to four months) even after vigorous antisymphilitic treatment had been started. Even in these cases the filthy-looking surface of the ulcers was replaced by healthy-looking granulation tissue free of pus and sloughs in two weeks, and complete epithelization was only delayed.

Those in group 2 proved uniformly slow in healing (three were Kahn-positive), none showing any real signs of healing in six weeks and the majority of these patients carrying on for three to four months, when they all objected to not having the vitamin-B treatment. All were then given yeast, with results similar to those in group 1.

In all cases treated with yeast the average healing time was two to three weeks in ulcers $\frac{1}{2}$ to 1 in. (1.25 to 2.5 cm.) in diameter and four to five weeks in ulcers 4 to 5 in. (10.2 to 12.7 cm.) in diameter, with the exceptions, already mentioned, of those who were Kahn-positive. Since this experiment yeast has been used as a routine treatment on all cases of tropical ulcers and has continued to give similar results.

A modification in the treatment was made about August, 1948, when we started to carbolize the ulcers before applying the yeast. This brought a great reduction in the time needed for healing, even cases with a positive Kahn test healing in four to five weeks.

The standard of cure is complete epithelization of the ulcer. In no case has skin grafting been necessary, and, further, the skin that has grown over the ulcers is extremely sound, and even in the biggest ulcers the lack of scarring is remarkable.

In seventeen months 188 cases have been treated with no failures and only one relapse. This occurred in a man who had an ulcer 5 in. in diameter over the lower and outer half of the tibia. He had severe varicose veins and a positive Kahn reaction. A wooden splinter caused sepsis in the skin over the original site of the ulcer, and this remained untreated for four weeks.

The autolysed torula yeast used contains a proteolytic enzyme, which may account for the rapid disappearance of pus and sloughs from the ulcers. Twelve cases were therefore treated with other products containing vitamin-B complex but no proteins or proteolytic enzymes, notably becol and thiamin, in the same way as food yeast. The results obtained paralleled those with food yeast except that ulcers containing much pus or sloughs were much slower in showing a clean surface, though healing was retarded only by about two weeks.

Three cases were treated by carbolization and elastoplast alone and good results were obtained, but the time required for healing was about twice as long and the scars seemed not quite so sound.

T. C. HALLINAN, L.M.S.S.A.