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.

K. SICHER, M.D., D.M.R.,
Consultant Radiotherapist,
Coventry and Warwickshire Hospital.

REFERENCE

Baer, P., and Sicher, K. (1947). *Brit. J. Radiol.*, **20**, 523.

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.