NOTES ON A NEW ULCERATIVE DERMATO-MYCOSIS. (With Special Plate.)

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WITH REPORT ON THE CAUSATIVE FUNGUS

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SINCE 1907 I have come across in Ceylon a peculiar ulcerative condition which is clinically very characteristic. As to its hyphomycetic origin there cannot be any doubt, as from all the cases I have grown the same fungus. Cultures of this fungus have been given by me to Professor Pinoy, who has kindly investigated it botanically and classified it. The disease would appear to be present also in the Federated Malay States, as one of the patients stated that the ulcers had begun developing while he was employed on a Malaya plantation. This patient was seen by Dr. F. Grenier, who very kindly allowed me to investigate the case. I have recently observed a case of the same disease in the Balkans.

Etiology.

As a rule no hyphomycetic elements are seen microscopically in scrapings from the ulcers and contents of the nodules. If the material, however, is inoculated in glucose-agar tubes, small yellowish amber-coloured colonies appear four to eight days after inoculation; they enlarge fairly rapidly, become hemispheric, and often coalesce in a knotty mass. At times the colonies may not fuse together; each colony then remains separate, reaches a large size, and occasionally presents peculiar radiating furrows as seen in certain species of trichophytons. In many cases, when the material has been collected from ulcerated lesions, the fungus grows in symbiosis with a coccus, and it may be somewhat difficult to separate the two organisms. When the inoculations have been made from lesions not yet ulcerated, the fungus only is present. The disease has been easily reproduced in two coolies (who volunteered) by injecting cultures of the isolated fungus. Cultures used for such experiments must be recent, as old cultures apparently lose their pathogenicity. The experiments on this subject will be reported in detail later.

Botanical Description of the Fungus by Professor Pinoy.

Professor Pinoy of the Pasteur Institute has kindly investigated the fungus, a strain from a Ceylon case I supplied him with, and the following is his description:

"The fungus isolated by Professor Aldo Castellani belongs to the hyphomycetes or *Fungi imperfecti*, and is of somewhat difficult classification. I propose to include it in the genus *Accladium*, at least temporarily, and call it *Accladium castellanii*. The microscopic appearance on culture media (Sabouraud's agar, carrot) recalls somewhat the appearance of *Cladosporium herbarium*, with the difference that the colonies are whitish and amber yellow instead of being greenish-black. The growth consists of many small roundish masses which later on often coalesce, covered by spiculated formations consisting of erect, straight filaments parallel to each other or at times interlacing. These filaments are approximately 2 microns in diameter and carry laterally pseudoconidia of variable shape (Fig. 6, s), cylindric, pyriform, or spherical, attenuated in size at their points of insertion. Most of these pseudoconidia are 4 microns long with a breadth of 3 microns. This type of fructification recalls the type *Accladium* described by Bodin in some species of the genus *Trichophyton*. These pseudoconidia become detached and then develop by sprouting, and mycelial filaments are formed (Fig. 6, a, b, c). Certain filaments produce spherical chlamydospores (Fig. 6, ch) arranged in small strings as found in certain fungi of the genus *Fusarium*. These small chains of chlamydospores are very frequently terminal, the dimensions being variable—8 to 10 microns."

Symptoms.

In a well marked case ulcers are seen practically all over the body, though on the face, scalp, palms, and soles they are in small numbers or altogether absent. The

ulcers are generally sharply defined, roundish or oval, with red granulating fundus. Their appearance is well shown by the photograph of the arm reproduced in the accompanying plate. In certain cases there may be abundant purulent secretion, and the ulcers are often covered by thick yellow crusts. Gummata-like nodules and furuncle-like lesions may also be observed. Some of the superficial lymphatic glands are often enlarged. The lesions are not as a rule very painful, and there is little or no itching. The general condition of the patient is not seriously affected for a long time, but he often complains of weakness, general discomfort, and is unfit to attend to his work. Occasionally there is serotine temperature. In two cases in which the blood was investigated red blood corpuscles and haemoglobin were slightly below the normal, and in one case there was eosinophilia (5 per cent.). This feature of the blood may, however, have been due to intestinal parasites, the stools containing eggs of ascaris. The urine did not contain either albumin or sugar.

The course of the disease is long, and if left untreated there is apparently not much tendency to spontaneous cure.

Diagnosis.

Most of the patients came to me with the diagnosis of syphilis, but in none of them except one was there a history pointing to that infection, and in two of the cases in which a Wassermann test was carried out the result was negative. Moreover, scrapings from the ulcers never showed spirochaetes, and salvarsan and mercury have no beneficial effect on the condition.

Prognosis.

As already stated, the course of the disease is very long, and there is little tendency to spontaneous cure; on the other hand, if properly treated, a complete cure can be obtained fairly rapidly.

Treatment.

Potassium iodide acts fairly well. It should be given in full doses, gr. xx, three or four times daily. The drug appears to act better if the patient is given a salt-free diet, as first suggested by Professor Pinoy in other dermatomycoses. If potassium iodide is not well borne, iodine and other similar preparations may be tried, but the result is not so satisfactory. Mercury and arsenic have no beneficial effect on the course of the malady. As regards local treatment, it is sufficient to keep the ulcers clean by dressing them with weak mercury perchloride lotion. Ointments are badly borne in most cases.

FURTHER EXPERIMENTS ON ASCARIS INFECTION.

By F. H. STEWART, M.D., D.Sc., CAPTAIN I.M.S.

I WISH to record some experiments made since the paper published in the BRITISH MEDICAL JOURNAL of July 1st was written. These experiments may still not be conclusive but they appear to be highly significant.

The first two have already been published in *Parasitology* of August of this year.

1. The rat, F, to which reference was made in my previous paper, was killed twelve days after the first infection and nine days after the last. No nematodes were found in the nasal cavities, mouth, trachea, lungs, or oesophagus. One dead ascaris larva was found in the stomach, a second, also dead and partially digested, in the rectum. The former measured 1.3 mm. after mounting in Canada balsam. Both were more advanced than the larvae from the lungs of other animals. They had doubtless undergone this further development under the stimulus of the intestinal secretions before they succumbed to the unfavourable surroundings in an inappropriate host.

2. Mouse B, killed on eighth day after infection with a single dose of eggs of *A. suilla*. Larvae measuring 1 to 1.5 mm. (in normal salt solution) in the trachea and lungs. No larvae in nasal cavities, liver, or alimentary canal.

3. Mouse C, killed on the night of the seventh day after a single dose of eggs of *A. suilla*; 50 to 60 larvae measuring up to 1.8 mm. in the lungs and trachea.

4. Mouse D, killed on eighth day after a single dose of eggs of *A. suilla*; 12 larvae in lungs. Largest measures 1 mm.

5. Mouse E, killed on eighth day after a single dose of eggs of *A. lumbricoides*. Not less than 100 larvae in roots of lungs and trachea.