discharged on March 28 in reasonable health though still with cardiac enlargement and hypertension. The serum antibodies to the PR8 strain of influenza virus A and the Lee strain of virus B were estimated in samples collected on admission (Jan. 25) and on Feb. 15 by the agglutination-inhibition test (Hirst). The results showed that the antibody level against influenza virus A had increased 64 times during the progress of the patient's illness, whereas that against influenza virus B had remained unchanged.

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AMOEBIC ABSCESS OF THE LEFT BUTTOCK IN A SYMPTOMLESS CYST CARRIER

BY

**Air Commodore T. C. MORTON, M.D., F.R.C.P.
D.T.M.&H.**

AND

Squadron-Leader S. F. SOUTAR, M.B., F.R.C.S.Ed.

(From the R.A.F. Institute of Pathology and Tropical Medicine, Halton)

Cutaneous amoebiasis has been reported from many parts of the world. The cases fall into five groups according to their connexion with other primary conditions: (1) those following the drainage of an amoebic abscess of the liver (Heimbürger, 1925); (2) those following the drainage of a lesion of the appendix (Cole and Heideman, 1929); (3) those following a colostomy for a rectal obstruction (Smyth, 1946); (4) those about the anus associated with amoebic colitis (Van Hoof, 1926); and (5) those without any direct connexion with the viscera.

In practically all of these cases motile entamoebae were found in fresh preparations from the lesions of the skin. The case described below falls into the last category. The only references we can find in the literature that are at all analogous to our case differ from it in some respects; these will be discussed later. Van Hoof (1926) reported the case of a negro woman who suffered from dysentery in 1915 for which she received injections, probably emetine, but was not cured. In July, 1925, multiple ulcerations appeared on the skin of the buttock and around the anus, some of the ulcers communicating with the bowel. In the pus of both the fistulous ulcers and those not communicating with the rectum active entamoebae containing red blood cells were found; after specific treatment with emetine the amoebae could no longer be demonstrated and the lesion healed rapidly. In our case there was no history of previous dysentery, and the most careful search failed to reveal any direct communication with the rectum.

Ngai and Frazier (1933) described a case in which a papilloma of the anal region was invaded secondarily by *Entamoeba histolytica*. We believe that a secondary invasion of a staphylococcal abscess occurred in our case. This is reported, as, apart from the rarity of the condition, it is felt that similar cases may arise during the next few years in Service personnel, and unless the condition is recognized at an early stage gross destruction of the tissue will occur as in the case reported by Norwich and Muskat (1946). Their case occurred in a negro, who gave a history of a small blind boil appearing near the anus which eventually burst and instead of resolving was followed by a rapidly spreading ulceration. There was a previous history

of colicky lower abdominal pain and diarrhoeal stools with occasional blood. On his admission to hospital an ulcer measuring 5 in. by 2 in. (12.5 cm. by 5 cm.) was present on the left buttock, extending obliquely across the sacrum to the opposite buttock. Sigmoidoscopy revealed a large necrotic ulcerating area covering the posterior wall, while a biopsy from the edge of the ulcer of the skin revealed the presence of numerous *E. histolytica*. A colostomy had to be carried out to prevent soiling of the ulcerated area, but eventually, after specific anti-amoebic therapy followed by a skin graft, complete healing occurred.

This case differs from ours in that there was gross ulceration of the rectal mucosa. An extensive search through the literature has failed to reveal an exactly parallel case to the one here recorded.

Case Report

A warrant officer aged 27, of excellent physique, was admitted to an R.A.F. station sick quarters on Jan. 4, 1947, with a painful swelling on the left buttock which had been discharging pus for five days. He stated that he had had some pain in the left buttock about four months previously and that there was a swelling in this region. Apart from pain on sitting this gave no trouble and did not interfere with his normal activities. On Dec. 29, 1946, the swelling burst and discharged pus, and after this the pain increased in severity and he reported sick.

Previous History.—In September, 1945, he was kicked in this area while playing football in Bombay, where he had served for two years. He returned to the United Kingdom in October, 1946, and three weeks later he first noticed the pain in his buttock. He had never had dysentery, and remembered only one mild attack of diarrhoea, lasting one day, during his tour abroad.

Present Illness.—He was transferred to an R.A.F. station hospital on Jan. 4. On examination a slight bilateral inguinal adenitis and a swelling of the left buttock some 4 in. by 4 in. (10 cm. by 10 cm.) were found. This swelling was hard centrally but soft and fluctuating peripherally; pus was escaping from a small opening, and probing of this opening revealed a short sinus some 3/4 in. (1.9 cm.) long. Pus from the sinus grew *Staphylococcus aureus* and *albus*. His B.S.R. was 40 mm. in one hour. A skiagram of the lumbar spine and pelvis revealed no abnormality. The skin showed dark purplish discoloration. The W.R. and Kahn test were negative. The abscess was incised on Jan. 8, and two main cavities were found communicating with each other and lying subcutaneously; there was no sign of any communication with the rectum. Histological examination of the curettings revealed granulation tissue with aggregations of plasma cells scattered among the polymorphonuclears; there was no specific evidence of tubercle or actinomycosis. After the operation short-wave therapy and the instillation of 100,000 units of penicillin on alternate days led to considerable local improvement, and the abscess cavity appeared to be granulating satisfactorily. On Jan. 18 further undermining of the skin laterally led to pocketing of pus and the appearance of fresh sinuses.

Local treatment having failed it was decided to try the effect of systemic penicillin, and a million units were given over five days without any response. The failure of any form of treatment and the unusual features of the ulcer then suggested that it was a fungous infection (? sporotrichosis), and iodides were given for several days, again without any noticeable improvement.

By Feb. 19 the ulceration had spread both medially and laterally, and fresh sinuses had appeared near the medial edge. The abscess had to be reincised on Feb. 21, and gelatinous material was curetted from the sinuses, but the cultures were sterile. Histological examination of the material from the curettings revealed an oedematous granulation tissue infiltrated with plasma cells and macrophages and scanty cells which resembled *E. histolytica*. The patient was transferred to Princess Mary's Royal Air Force Hospital for further investigation. Examination showed a granulating ulcer measuring

2½ in. by 1½ in. (6.25 cm. by 1.25 cm.) with an overhanging undermined edge on the inner wall; internal to this there was a dusky, devitalized area of skin with three sinus openings close to the natal cleft, superior, and one 3 in. (7.5 cm.) lower down, inferior. A probe could be passed from each of these sinuses for from 2 to 3 in. (5 to 7.5 cm.) emerging below the undermined edge of the ulcer. Curettings from the walls of these sinuses revealed actively motile *E. histolytica*, many of them with ingested red blood corpuscles. In view of this positive finding it was not considered justifiable to carry out a biopsy. Sigmoidoscopy to 25 cm. revealed a normal mucosa, except for the presence of two pin-point petechiae on the anterior wall of the rectum; no communication or induration that suggested a fistula could be felt, and pressure on the left wall of the rectum revealed no tenderness and did not lead to any discharge from the external sinuses. *E. histolytica* cysts were present in the faeces in small numbers. A course of emetine, 1 gr. (65 mg.) intramuscularly for ten days, together with "diodoquin" three tablets t.d.s. by mouth, was completed. At the end of this course the condition had greatly improved; the pain, swelling, and discharge had disappeared, but it was still possible to pass a probe in various directions beneath the dusky devitalized skin, and it was decided to lay open and incise the sinuses.

The operation was carried out by Squadron-Leader Pike on Feb. 25. On slitting open the sinuses they were found to communicate with each other like an extensive rabbit-warren, and it was considered advisable to excise the whole devitalized skin. The sinuses were found to be entirely subcutaneous and appeared to have spread laterally without penetrating the deeper areas; there was no evidence of any communication with the rectum. This form of peripheral spread was reported by Ngai and Frazier (1933), who stated: "After reaching the deeper layers of the epidermis the parasites tended to advance along the plane of least resistance between the epidermis and the cutis." It was also a marked feature in the case reported by Smyth (1946), in which an ulcer involving half the abdominal wall followed an operation for closing a colostomy in an unsuspected case of amoebiasis. A skin graft was carried out on April 21 by Wing-Commander Morley in order to expedite healing, and this was entirely successful. The patient was discharged to duty on May 21.

Discussion

It is difficult to decide the exact role of *E. histolytica* in the genesis of the abscess. There are three ways in which the abscess may have arisen. (1) By invasion through the blood stream. Although this is possible, Craig (1944) in his unique experience has never heard of it in amoebiasis cutis. (2) By invasion from the rectum. If the abscess was primarily due to *E. histolytica* it must be presumed that infection occurred through the rectum in a symptomless cyst carrier via a fistulous tract which subsequently healed spontaneously and of which no trace has remained; this is an extremely unlikely occurrence. Norwich and Muskat suggest the possibility of lymphatic spread from the rectum; this is a possibility in our case. (3) By secondary infection with *E. histolytica* in a discharging staphylococcal abscess. This appears to be the most reasonable explanation, and is supported by the negative biopsy findings at the time of the first operation, the initial improvement followed by further spread and sinus formation, and the failure to respond to penicillin.

The pathology of amoebiasis cutis has been well described by Hu (1937), and the localization of the entamoebae immediately under the skin, together with the peripheral spread, would produce the clinical picture found in this case.

Christophers's *Text Book of Surgery* states: "It seems to the writer that one or all of the following conditions should obtain before it can be fairly stated that amoebae are participating actively in any infection: (1) there should be histological evidence of the invasion of the tissues by

the amoebae, (2) they should be found either by smear or culture in the advancing margin of the lesion, or (3) the lesion should respond to medical treatment recognized as adequate for amoebic disease. The writer believes that the mere presence of amoebae on the surface of the lesion or in the exudate is no more evidence of their participation in the infection than the presence of *B. coli*, *B. proteus*, *Cl. welchii*, or any of the other intestinal organisms is evidence of their activity in the tissues about a faecal fistula." Our case satisfies these three conditions.

Summary

A case of amoebic ulceration of the buttock in a symptomless cyst carrier is described and the recent literature on the subject is reviewed.

The aetiology of the genesis of the abscess is discussed and the importance of excluding amoebiasis in any lesion of the ano-rectal region is stressed, especially in personnel who have served in the Tropics.

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A CASE OF SEVERE PRE-ECLAMPTIC TOXAEMIA WITH CENTRAL PLACENTA PRAEVIA

BY

GEORGE NEWBOLD, M.R.C.S., D.R.C.O.G.

Lately Resident Obstetric Officer, St. Mary's Hospital,
Portsmouth

A married woman, 32 years of age and in her third pregnancy, was admitted to hospital as a moderately severe case of pregnancy toxæmia on March 25, 1946. On admission she complained of some swelling of the ankles and occasional vomiting during the past week or ten days. She had had no headaches, visual disturbances, or pain elsewhere, and her only other complaint was a certain amount of epigastric discomfort caused by indigestion and flatulence which was relieved by a carminative mixture. Her last menstrual period was Aug. 1, 1945.

The patient had two children, now aged 8 and 10 years, and no miscarriages. She had had no illnesses or operations except for some degree of hypertension during the latter part of the second pregnancy.

On examination she looked rather ill and had slight conjunctival pallor. There was some oedema, not marked, of both ankles and the lower parts of both legs. Her blood pressure was 150/100 mm. Hg, and testing the urine revealed a distinct cloud of albumin. The fundus of the uterus corresponded to a height of about 36 weeks' pregnancy and was not tender on palpation. Although it was rather difficult on abdominal palpation to determine precisely the presentation of the foetus it seemed more likely to be a breech rather than a vertex.

The next day, March 27, after starting routine treatment for toxæmia, which consisted in complete rest in bed, the administration of "ostocalcium," "multivite" tablets, "bemax," glucose drinks, and phenobarbitone, 1/2 gr.