is enough evidence to support the theory that farmer's lung is not a specific entity, but only a single facet of a similar lung reaction to a variety of irritants.

Summary

A small series of cases of farmer's lung is described, stressing the acute onset and tendency to spontaneous recovery in six to eight weeks.

The close similarity to coniosporiosis, byssinosis, and diffuse granulomatous pneumonitis is stressed.

The theory is put forward that the condition is a non-specific interstitial lung reaction to some material in the fungus-laden dust, rather than a true fungous infection of the lungs.

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INTRACTABLE GASTRIC CRISES RELIEVED BY CHORDOTOMY

BY

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Stokes (1944) states that the figures of the American Co-operative Clinical Group show that 45% of patients with tabetic gastric crises are completely relieved by treatment and that an additional 22% are benefited. He adds that standard chemotherapy—that is, neoarsphenamine plus bismuth—is more effective than fever plus tryparsamide or intraspinal methods, and that “the whole surgical field for relief in gastric crises is at best a matter of last and desperate resort.” Moore (1941) believes that routine treatment will produce relief of symptoms in 25% of cases, that tryparsamide is of little value, and that the use of fever in addition will relieve a further 25%. Of the 50% of cases thus benefited, however, only 10% may be regarded as cured, and he quotes Keidel's opinion that “if, as rarely occurs, severe attacks are almost continuous, operation may be the only alternative to starvation, morphinism, or suicide.” He also states that later experience with penicillin suggests that it is inferior to fever therapy in the treatment of this distressing condition (Moore, 1947).

The following history demonstrates the extent of the problem presented by those cases which do not respond to antisyphilitic treatment and emphasizes the additional fact that neurosyphilitic patients may suffer from unrelated organic intra-abdominal disease.

Case History

A seaman aged 37 was first seen in September, 1947, having had intermittent “stomach pains” and vomiting during the previous nine months. The pains occurred approximately every three weeks, were not related to meals, but were alleviated by alkaline powders. During these periodic episodes the pain was not constantly present, but came in sudden bouts, each lasting about 15 minutes and recurring at frequent though irregular intervals. The pain consisted of a sickening steady ache in the epigastrium, and was accompanied by retching and vomiting. In the previous nine months he had lost 2 st. (12.7 kg.) in weight, and at the time of examination he weighed 8 st. 2 lb. (51.7 kg.). He also complained of shooting pains in both legs of about one year's duration.

On full clinical examination no abnormalities were found except for Argyll Robertson pupils. Serological examination of the blood showed: Wassermann reaction, weak to moderately strong positive (+ to ++); quantitative, five doses of complement fixed; Kahn, strong positive (+++). The cerebrospinal fluid showed: cells, 200 per c.mm.; Wassermann reaction, very weak positive (±); gold sol, 0111000000.

Antisyphilitic treatment was begun with penicillin, but as the condition was strongly suggestive of either peptic ulceration or neoplasm an exploratory laparotomy was performed on October 3 (Professor W. Mercer). No abnormality was found, but the opportunity was taken to remove a small fibrosed appendix.

Treatment with penicillin (100,000 units three-hourly) was continued to a total of 12,000,000 units, and on October 17 he was discharged from hospital. Thereafter he continued to attend for treatment as an out-patient while following his usual occupation of trawlerman, although symptoms recurred at intervals despite continuous treatment with oxophenarsine hydrochloride, tryparsamide, and bismuth. The attacks were the same as those previously described, and lasted sometimes for several days.

Serological examination on June 12, 1948, showed much improvement—blood: Wassermann reaction, weak positive (+); quantitative, four doses of complement fixed; cerebrospinal fluid: cells, 5 per c.mm.; protein, 20 mg. per 100 ml.; globulin, no increase; Wassermann reaction, very weak positive (±); gold sol, 0000000000.

In September, 1948, the patient ceased to attend after having received a total of 12,000,000 units of penicillin, 0.88 g. of oxophenarsine hydrochloride, 39 g. of tryparsamide, and 4.1 g. of bismuth. Later it was learned that in October a recurrence of crises had necessitated his admission to a distant hospital, where he was treated with 16,100,000 units of penicillin, 34 ml. of bismuth tryparsamide, and one session of inductopyrexia—five and a half hours at 104–105° F. (40–40.6° C.).

Between January and June, 1949, he received no treatment, but on June 28 he was again in hospital in a state of extreme misery after further crises. Serological investigation of the blood on June 27 showed quantitative Wassermann reaction ++ (six doses). On July 21 the cerebrospinal fluid showed: cells, 4 per c.mm.; protein, 40 mg. per 100 ml.; globulin, no increase; Wassermann reaction, 0.2 ml. ±; 0.5 ml. +; 1 ml. ++; gold sol, 0000000000. On this occasion treatment consisted of penicillin (100,000 units three-hourly) to a total of 12,000,000 units, malaria (seven rigors), intravenous glucose-saline, pethidine (2 ml. intramuscularly as required). He returned home on September 2, but was readmitted on two further occasions for short periods (October 19 and

November 14) and treated symptomatically with intravenous glucose-saline, pethidine, and morphine.

In February, 1950, he was again in hospital, after another crisis which had lasted one week. Examination of the cerebrospinal fluid on February 17 showed: cells, 1 per c.mm.; protein, 30 mg. per 100 ml.; globulin, no increase; Wassermann reaction, 0.2 ml. negative; 0.5 ml. negative; 1 ml. negative; gold sol, 0000000000. At this time a test meal demonstrated histamine-fast achlorhydria, and a positive benzidine reaction was obtained with each specimen withdrawn. Radiography after a barium meal revealed a filling defect on the lesser curvature of the stomach, the appearance being more suggestive of carcinoma than of a simple lesion; gastroscopy confirmed the presence of an outgrowth on the lesser curvature (Dr. D. M. F. Batty).

Accordingly a second laparotomy was performed on March 24 (Mr. J. S. Jeffrey), and a diffuse area of thickening was found in the stomach wall on the lesser curvature with no enlargement of the associated glands. The distal two-thirds of the stomach was resected and subsequent histological examination showed the presence of a well-differentiated adenocarcinoma, with no evidence of spread. During convalescence the patient experienced further smouldering episodes of epigastric pain and vomiting.

He returned to his previous occupation and remained well until the first week of August, when continuous acute upper abdominal pain returned. On August 11 he re-entered hospital, and a further barium-meal examination showed a possible stenosis of the stoma. It was feared that there had been an extension of the neoplastic process, and a third laparotomy was performed (Professor Mercer), but no abnormality was found.

During the subsequent period of convalescence the crises continued to occur and were treated with morphine or pethidine hypodermically; neither drug gave complete relief from pain. Examination of the cerebrospinal fluid on December 27 showed: cells, 2 per c.mm.; protein, 50 mg. per 100 ml.; Wassermann reaction, negative; gold sol, 0000000000.

Finally, on January 8, 1951, the patient was admitted to the department of surgical neurology, where after a preliminary period of observation a right antero-lateral chordotomy was done at C. 3-4 level (Mr. F. J. Gillingham). This resulted in loss of pain and temperature sensation below the level of C. 8 on the left side, light touch remaining unimpaired. Five weeks later he left hospital and, after a short convalescence, resumed his former employment as a deep-sea fisherman. On March 27 the blood Wassermann reaction and Kahn test were negative. Nine months later he stated that he had had no further symptoms and had "never felt better."

Summary

A case of tabetic gastric crises is described which exhibited the following noteworthy features: (1) The occurrence of Argyll Robertson pupils as the only clinical sign of neurosyphilis in a patient with severe gastric crises. (2) A tendency for the crises to become more frequent and incapacitating, although both blood and spinal fluid became ultimately normal during adequate antisyphilitic treatment. (3) Suspicions of organic intra-abdominal disease strong enough to lead to laparotomy on three occasions and the discovery of a gastric carcinoma in a very early stage at the second operation. (4) Cessation of crises following unilateral chordotomy.

I wish to thank Dr. R. C. L. Batchelor for permission to publish this case.

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TOXIC EFFECTS OF PHENYLBUTAZONE

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Whilst the aetiology of rheumatoid arthritis remains an unsolved problem new therapeutic measures will constantly be tested for their power to alleviate its symptoms and in the hope of throwing some light on its causation. Phenylbutazone ("butazolidin") has lately been advocated as a drug which is likely to be a potent weapon in the treatment of rheumatic conditions (Currie, 1952).

Since the release of the drug for general use an increase in toxic reactions, occurring in from one-fifth to one-third of patients, has been reported (Loxton *et al.*, 1952; Kuzell *et al.*, 1952; Rhys Davies *et al.*, 1952; Cudkovic and Jacobs, 1953). A warning of the dangers of its uncontrolled use was given by Hart and Johnson (1952). The principal untoward reactions are rashes, anorexia, nausea, abdominal pain, looseness of the stools, and reactivation of peptic ulcers with bleeding. As phenylbutazone is closely allied to amidopyrine chemically, it is not surprising that agranulocytosis, fatal in two instances, has been reported in several patients (*British Medical Journal*, 1952; Bershof and Oxman, 1953; Etess and Jacobson, 1953; Stifel and Burnheimer, 1953). Oedema due to sodium retention is a common but avoidable side-effect (Green and Williams, 1953).

Present Investigation

This paper is a record of our experiences with phenylbutazone during the past six months. The drug can be given either by mouth or by intramuscular injection, but as the majority of patients treated were out-patients the former route was usually employed. All patients were warned of possible side-effects and were asked to restrict their salt intake; those who gave a definite history of peptic ulceration or cardiovascular or renal disease were not treated with the drug. Three patients were suffering from diabetes, which was not affected by phenylbutazone.

The series consisted in 109 patients (79 women and 30 men), their ages ranging from 12 to 73 years (average age 49 years). Of these patients 86 suffered from rheumatoid arthritis, 19 from osteoarthritis, and 3 from gout. One patient had a ligamentous strain of the knee. In 18 patients phenylbutazone was combined with cortisone, but in only 4 was the effect good enough to allow the hormone to be completely withheld.

The drug was given to 102 patients by mouth in tablets containing 0.2 g. in daily doses ranging from 0.2 to 1.2 g. (average dose 0.6 g.). Seven received intramuscular injections of 1 g. on four alternate days, followed by weekly injections. All patients were seen first at weekly, then fortnightly, and, later, monthly intervals. A check was kept on the white blood count and the sedimentation rate.

Results

Symptomatically 59 patients were greatly improved by phenylbutazone, but in none was there any associated fall in the sedimentation rate. In 15 improvement was only slight, in 25 the drug had no beneficial effect, and in 10 toxic reactions occurred before any therapeutic effect could be noted.