or surface of brain. Cut sections of cerebral hemispheres, cerebellum, and brain stem disclosed no lesions. *Respiratory system*: Trachea and bronchi contained some fine frothy fluid. Left pleural cavity dry, and contained no adhesions. Right pleural cavity contained about 2 pints (1.14 l.) of straw-coloured fluid. Both lungs were crepitant, and on section revealed no lesions. Hilar glands appeared normal. *Cardio-vascular system*: Both layers of the pericardium were firmly adherent, completely obliterating the pericardial cavity. Heart normal in size. Myocardium pale and flabby. Valves were competent, and exhibited no lesions. Endocardium appeared normal. *Alimentary system*: Oesophagus, stomach, and duodenum presented no unusual features. Numerous abscesses, varying in size, were seen in the wall of the small bowel, at intervals of approximately 6 in. (15 cm.), from almost the commencement of the jejunum to about 3 ft. (90 cm.) from the ileo-caecal junction. No lesions were observed in the colon. The spleen was approximately three times enlarged: a cut section disclosed soft, dark-red pulp. The liver was swollen and pale; cut sections revealed no disturbance of the lobular pattern. The gall-bladder contained about 2 oz. (57 ml.) of clear bile. Nothing abnormal was seen externally and in cut sections of the pancreas. *Urinary system*: Both kidneys were enlarged and contained numerous small abscesses, particularly in the cortices. A number of these abscesses had coalesced to form a honeycomb appearance. The suprarenals appeared normal on external examination and in cut sections. Cultures on blood agar were made from heart blood, from the spleen, and from the abscesses in the bowel and kidneys. The same organism was isolated in each case.

Bacteriological Findings

(By C. R. P. and A. Van de S.)

The organism isolated presented the following features: Gram-negative rods, approximately $1\ \mu$ in length, showing some pleomorphism and bipolarity ("safety-pin" appearance). Actively motile. Aerobic. Grew easily on ordinary media. Growth in broth resulted in pellicle formation, with a ropy deposit in the depth of the medium and a peculiar aromatic odour. The pellicle became rough and wrinkled after four days. On nutrient agar button-like colonies, with flat rims, and central crater-like depressions developed. Growth on 5% glycerin agar was first of the mucoid type, but after three days developed the typical corrugated form of *Pfeifferella whitmori* (*Malleomyces pseudomallei*). Fermented lactose, glucose, mannite, dulcitol, and saccharose, without gas formation. No indole formed from peptone water.

Animal Inoculation.—An adult male guinea-pig, inoculated intraperitoneally with 0.1 ml. of a faintly opalescent saline suspension of the organism, developed the typical "Strauss" reaction after 48 hours and died in four days. A post-mortem examination of the animal revealed: Both testicles were markedly swollen and inflamed. The tunica vaginalis was oedematous and haemorrhagic, and contained in the sac a small quantity of turbid fluid. Numerous miliary nodules were observed in the liver and spleen, in the omentum, and on the peritoneal surface of the bowel. Both lungs were congested. One small nodule was seen in the base of the right lung. The organism was recovered in pure culture from the heart blood and from the lesions in the liver and spleen.

Summary

A case of melioidosis diagnosed after death is described. The main clinical features were: slow fibrillation; pericarditis with effusion; pleural effusion; diarrhoea; septicaemia as evidenced by the petechial rash and septic arthritis; and embolic nephritis.

It is believed that this is the second case of melioidosis to have been reported from Siam.

We are indebted to the Director of Medical Services, A.L.F.S.E.A., for permission to publish this case, and to Dr. J. C. Cruickshank, of the London School of Hygiene and Tropical Medicine, for kindly confirming the organism as *Pfeifferella whitmori*.

Since the completion of this paper one of us (C. R. P.) has seen six other cases of melioidosis—one in Siam (reported on this page) and five in Rangoon. *Pfeifferella whitmori* was isolated post mortem in two cases and in the other four cases during life, from sputum, urine, and pus from an abscess in the neck.

A CASE OF MELIOIDOSIS PRESENTING AS AN ABSCESS IN THE NECK

BY

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AND

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The following account of a case of melioidosis is considered worthy of publication.

Case Report

A havildar, aged 25, of the Royal Rajput Regiment, was admitted to an Indian general hospital (combined) in Bangkok, Siam, on Feb. 2, 1946, with a history of a swelling in the midline of the neck, just above the suprasternal notch. It started one month before, and when first observed by the patient the lesion was a small mass approximately $\frac{1}{4}$ in. (8 mm.) in diameter, to which he paid no particular attention. It grew slowly, and appeared to have caused no real discomfort. The swelling now was about $2\frac{1}{2}$ in. (6.3 cm.) in diameter, and fluctuant. It was not particularly tender, and there was no erythema of the skin over it. There were no constitutional symptoms, fever, or glandular enlargements. The general condition of the patient was good. Similar swellings were not observed elsewhere on the body. There were no associated cases in his unit. The patient had been resident in Siam, just outside Bangkok, since August, 1945. The leucocyte count, both total and differential, presented no unusual features.

Progress.—The abscess was incised on Feb. 9, and a small quantity of a peculiar tenacious yellowish-brown pus evacuated. Microscopical examination of this material revealed 10 to 15 pus cells per field, amorphous debris, and scanty Gram-negative rods, about $1\ \mu$ in length, exhibiting some degree of pleomorphism and bipolarity ("safety-pin" appearance). Culture of the pus on blood agar resulted in a pure growth of *Pfeifferella whitmori* (*Malleomyces pseudomallei*), with features, and pathogenicity to guinea-pigs, as described below. Subsequent progress of the patient was slow, healing of the lesion appearing to be considerably delayed in spite of general surgical measures, antiseptic dressings, etc. It was therefore decided to try the effect of an autogenous vaccine from the strain isolated. This was accordingly prepared, at a strength of 500 millions per c.mm., and sterility proved, in liquid and on solid media and by intraperitoneal inoculation of an adult male guinea-pig. The initial dose administered subcutaneously to the patient was 0.1 ml. Subsequent doses were increased by 0.1 ml. every four days, until a maximum of 1 ml. had been reached. No untoward reactions, local or general, were experienced. After the first three or four doses the lesion began to show signs of acceleration in the rate of healing, and within one month the condition had completely subsided and the patient was discharged from hospital as "recovered," much pleased with the end-result. A sample of blood serum obtained before starting the vaccine course showed agglutinins to a titre of 1:80 against a killed suspension prepared from the organism isolated. Unfortunately, owing to our departure from the station and of the patient to his unit, contact was lost. His present condition is therefore not known, but efforts are being made to trace him. It was our intention to have estimated the agglutinin titre of this patient's serum on completion of the vaccine course, but, owing to an oversight and to the rush of work at that time, this unfortunately was not done.

Bacteriological Findings.—The organism exhibited the following features: Gram-negative rods, approximately $1\ \mu$ in length, showing some degree of pleomorphism and bipolarity, the latter being particularly well seen in smears from the original pus, and from the peritoneal exudate of an inoculated guinea-pig. Actively motile. Grew well on all ordinary media. Growth in broth resulted in pellicle formation on the surface, with a ropy deposit in the depth of the medium and a peculiar aromatic odour. After four days the pellicle became

rough and wrinkled. On nutrient agar, button-like colonies, with flat rims and central crater-like depressions, developed. Growth on 5% glycerin agar was first of the mucoid type, but after four days developed the typical corrugated form of *Pfeifferella whitmori*. Fermented lactose, glucose, mannite, dulcitol, and dextrin, with production of acid but no gas. Liquefied gelatin. Milk clotted in four days. Indole-negative.

Animal Inoculation.—An adult male guinea-pig inoculated intraperitoneally with 0.1 ml. of a faintly opalescent saline suspension of the organism developed the typical "Strauss" reaction after 36 hours and died in 48 hours. Post-mortem examination of the animal disclosed both testes swollen and haemorrhagic, and some turbid fluid in the sac of the tunica vaginalis. Numerous miliary nodules were observed in the spleen, in the omentum, on the peritoneal surface of the bowel, and in the lungs. There was a large amount of free turbid fluid in the peritoneal cavity. The organism was recovered in pure culture from the heart's blood and from the lesions in the spleen.

Penicillin-sensitivity Tests.—The organism was found to be insensitive to penicillin in strengths of 5 and 10 units per ml. and even to 100 units per ml., using the half-plate, gutter, and agar-plate cup methods.

We are indebted to the Director of Medical Services, A.L.F.S.E.A., for permission to publish this paper, and to Dr. J. C. Cruickshank, of the London School of Hygiene and Tropical Medicine, for kindly confirming the organism as *Pfeifferella whitmori*.

Medical Memoranda

A Case of Scurvy

At least three points about scurvy require more investigation: (1) the part played by lack of vitamin P; (2) the minimum human requirements of vitamin C; and (3) the discrepancy between the anaemia found in severe scurvy and the lack of such anaemia in depleted volunteers. The following case throws some light upon these three points. Only essential details are presented.

CASE REPORT

The patient, a foundry worker aged 55, lived alone in a single room, with cooking appliances limited to a gas ring. He had eaten no potatoes for 30 years, and no green vegetables. He used to eat tinned tomatoes, till the entry of Italy into the war deprived him of his favourite brand. Every morning he had about a pound of oatmeal scalded in water, and with this he took what marmalade he could get (he estimated it as 2 lb. (0.91 kg.) a week). For the rest of the day he had bread and dripping, with which he consumed his meat ration. He worked hard and felt well until, about four weeks before admission, he injured both shins at work. This resulted in extensive bruising of both legs, accompanied by a severe pain which prevented sleep.

On admission to the Royal Infirmary, Sheffield, he exhibited very striking scorbutic phenomena—viz., typical scorbutic gums, purpuric rash on legs and arms, with follicular keratosis and haemorrhage, and very extensive bruising and swelling of both legs, worse in the left leg, where it extended from buttock to foot, with a knee-joint which was hot and grossly swollen. On March 29, 1946, a blood count showed: Hb, 42%, R.B.C., 3,000,000, W.B.C., 4,800, and serum bilirubin, 2.1 mg. per 100 ml. He was euphoric and slightly fatuous. There were, however, no signs of vitamin B deficiency. He was put on a sterilized milk diet, and care was taken to see that no unprescribed ascorbic acid reached him. He was given 20 mg. of ascorbic acid daily. On April 3 a definite improvement in the gums was already noticeable, and he made an uneventful recovery, apart from an attack of diarrhoea which began when his diet was increased after the fact of recovery was well ascertained. Before leaving hospital he was instructed in regard to his diet and was saturated with ascorbic acid. He was given 600 mg. of ascorbic acid daily, and after two days the excretion of 100 mg. daily was attained. His haemoglobin had reached 70% by May 20. No haematinic drugs of any kind were given.

CONCLUSIONS

A markedly haemorrhagic form of scurvy can occur in spite of the ingestion of apparently generous quantities of marmalade, and it can be cured without adding vitamin P.

If 20 mg. of ascorbic acid daily will cure a very severe case of scurvy it is legitimate to assume that the minimum requirements for health are not more than this, possibly less. Hence the prescription of ascorbic acid to people on ordinary diet is a waste of very precious material.

The swelling of the legs was probably largely due to haemorrhage, which caused the anaemia. This view is supported by the high bilirubin content of the serum and by the satisfactory recovery without haematinic drugs, the blood being reabsorbed and refashioned.

This method of treatment was undertaken to test the reliability of the conclusions drawn from a recent M.R.C. experiment. Undoubtedly the safest means of treating true scurvy is by immediate saturation with ascorbic acid.

My thanks are due to my clinical assistant, Dr. C. E. Davies, my house-physician, Dr. Horne, and Sister Taylor for the many observations and the care taken in what was a very responsible experiment.

A. E. BARNES, M.B., F.R.C.P.

Recurring Spontaneous Dislocation of the Shoulder-joint treated by an Appliance

The patient, a frail old lady of 83, was first seen by me a year ago. She had been suffering from recurrent dislocations—these sometimes occurring twice a month. The dislocations had to be reduced under an anaesthetic, and the shock and pain were putting her on the down-grade.

In view of her advanced age and poor health the drastic operation was considered too risky, so I had built the corset and shoulder "cup" (C) here illustrated. My corset-maker tells me the style of make and material is "broché." I had the corset lifted over the scapula on the affected side, the "lift" being well over an inch (2.5 cm.), as shown in the back view. There is no lift in front. The "cup" is fitted over the round of the shoulder and is made of a firm webbing. The front view shows the "cup" attached by a webbing strap which passes across the chest and through a buckle (B), so that the pull on the shoulder can be varied. At the back the "cup" is attached by a strap to the corset at the middle. It is not buckled. Both these webbings are elastic in nature. This appliance has been in use for 4½ months, during which time the patient has been free from the dislocations.

I am indebted to Mrs. Dixon, of Stourport Road, Kidderminster, for her skill and whole-hearted co-operation in the making of this appliance.

Kidderminster.

ERIC COPLANS, M.R.C.S., L.R.C.P.,
Hon. Capt., R.A.M.C.

The Rt. Hon. R. A. Butler, M.P., was elected first president of the newly formed National Association for Mental Health at its inaugural meeting in London on Feb. 11. The Duchess of Kent has consented to be Patron, and the Earl of Feversham was elected chairman, Lady Norman, vice-chairman, and Sir Otto Niemeyer, honorary treasurer. The Association results from the amalgamation of three leading voluntary mental health bodies, the Central Association for Mental Welfare, the Child Guidance Council, and the National Council for Mental Hygiene, as recommended by the Feversham Committee on Voluntary Mental Health Services. The work of the amalgamated bodies in providing medical, educational, and social services complementary to the Statutory Services will be carried on and greatly extended in close co-operation with the Government and local government authorities concerned. The new association has been entrusted with the organization of the International Congress on Mental Health to be held in London next year.