A CASE OF PNEUMOCOCCAL SEPTICÆMIA

BY

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The patient, an officer aged 42 years, service five and three-quarter years, was admitted to 106 B.G.H. Antwerp on November 1, 1945.

He had felt well on October 28, 1945. On the morning of October 29 he felt very weak on waking and complained of severe frontal headache, pain behind the eyes, pains in his legs and a frequent irritable productive cough with a moderate amount of white frothy sputum. On October 30 he stayed in bed and did not report sick until the evening of the 31st when, in addition, he felt cold and shivery and sweated a little.

November 1: T. 102, P. 112, R. 30/40. The patient feels “done in.” There is profound prostration, slight cyanosis, dyspnoea, with grunting respirations and continued irritating cough with greenish-yellow sputum. Throat feels raw. Liver and spleen not palpable. No rash. No lymphoglandular enlargement. B.P. 110/58. Both lungs show multitudes of fine and medium moist râles. No haemoptysis.

He had no previous drug therapy for his illness.

Previous history.—No tropical service. Pneumonia and pleurisy with empyema aged 12 years. Frequent “bronchial” attacks in winter.

Immediately on admission blood was taken for a total and differential white blood cell count and then 4 grammes of sulphathiazole were given at once with alkalies and a routine course ordered. As soon as the results of the quickly performed white count were passed to me sulphathiazole was stopped which was just after the initial dose.

W.B.C. 1,600/c.mm. Polys. 51 per cent, monos. 1 per cent, lymphs. 48 per cent. This blood count was repeated immediately and verified. Blood was then taken for a blood culture and a pneumococcus was grown in time. This was later proved to be penicillin sensitive.

It was now felt that the patient was suffering either from a severe toxic illness normally characterized by a leucopenia or a profound prostrating illness due to an organism normally stimulating a polymorphonuclear leucocytosis but because of the profound toxæmia produced on this occasion it was characterized by a leucopenia; on these grounds and in the hope that the organism might be penicillin sensitive I prescribed a course of penicillin injections at once as follows:—

50,000 units I.M. stat. and 20,000 units I.M. three-hourly—also liver extract 4 c.c. I.M. daily and pentosenucleotide 40 c.c. I.M. in divided doses daily.

November 2: Afebrile by evening and very much better. W.B.C. 2,200/c.mm., polys. 62 per cent, monos. 9 per cent, lymphs. 29 per cent, platelets 125,000/c.mm. Bleeding time 1 minute. Clotting time 7 minutes. Sputum (Gram film): Predominating organism Gram-positive diplococci. Z.N. film: Gram-negative cocci. No T.B. seen.

Culture.—Pneumococci. Micrococcus catarrhalis. Yeasts present.

November 3: Signs in chest less marked but still present. A remarkable improvement in his general condition.

November 5: W.B.C. 14,000/c.mm., polys. 65 per cent, monos. 2 per cent, lymphs. 29 per cent.

November 6: W.B.C. 15,200/c.mm., polys. 58 per cent, monos. 12 per cent, lymphs. 30 per cent.

November 8: Seen by dental specialist. 8 teeth loose and should be extracted in due course. Otherwise teeth and gums healthy.
Clinical and Other Notes

November 10: Stop penicillin. Total 1,430,000 units.

November 13: X-ray chest: "Old rib resection 8th rib posteriorly. Considerable old pleural thickening and adhesions at left base pulling diaphragm upwards and heart to the left. In this left upper mid-zone there is a recent partial consolidation partially resolving."

November 19: X-ray chest: "No marked change in appearance of left lung. In addition it is now seen that there is a suspicious area of soft infiltration at the right apex. Pulmonary tuberculosis cannot be excluded. Suggest repeat in one week for progress."

Repeated sputum examinations negative for T.B.

November 24: X-ray chest: "No change from November 19."

Because of the radiological findings plus the scattered signs of activity at the left upper lobe he was evacuated to the U.K. for further observation, investigation and treatment. He made a complete recovery and returned to duty in U.K.

Commentary.—On the fourth day of a severe prostrating febrile illness a blood culture revealed pneumococci in pure culture. I realize that pneumococci may be isolated from the blood early on in cases of pneumonia with bad prognosis especially in old people. However, on the fourth day of his illness the whole extent of each lung showed multitudes of fine and medium crepitations on auscultation. There was no evidence of consolidation in the lungs, and no hæmoptysis at that time. Associated with all this was a pronounced neutropenia in the peripheral blood. Pneumonic consolidation did occur and persisted as the radiological reports show. The clinical picture was that of a septicæmia and the organism isolated from the blood was penicillin sensitive.

N.B.—On admission the W.B.C. was repeated several times and the presence of profound neutropenia confirmed. There was a dramatic response to penicillin therapy and the subsequent white blood cell counts are of interest.

This case emphasizes: The importance of an immediate total and differential white blood cell count in febrile cases of vague origin. That a septicæmia due to a pyogenic organism which usually provokes a neutrophil leucocytosis may be accompanied by little or no change in the white blood cell count and on occasion is actually accompanied by a neutropenia of varying degree. The importance of an immediate blood culture in a case such as this. The value of the prompt exhibition of penicillin as a prophylaxis against secondary invaders and on the odd chance that the main infecting agent might be penicillin sensitive as it was in this case. The rapid investigation and prompt exhibition of penicillin was life-saving in this case.


A CASE OF SEPTICÆMIA (HÆMOLYTIC STAPHYLOCOCCUS AUREUS) CONFUSED WITH CLINICAL HEPATIC AMœBIASIS

By

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The patient, an officer aged 35, service five years, was admitted to No. 13 General Hospital on September 24, 1944.

On his right buttock was a partially healed furuncle which had been present for one month.

Three days before admission to hospital he complained of a febrile illness with cold shivers and generalized aches and pains.
On examination (September 24).—T. 99.8, P. 88. Nil else of note beyond partially healed furuncle on right buttock.

Blood films and thick drops were examined repeatedly but no evidence of malarial parasites was found. W.B.C. 6,400/c.mm., polys. 58 per cent. W.B.C. 5,400/c.mm. (September 30). W.B.C. 10,000/c.mm., N. 78 per cent, L. 15 per cent, M. 5 per cent, E. 1 per cent, B. 1 per cent (October 4). W.B.C. 13,700/c.mm., N. 77 per cent, L. 16 per cent, M. 6 per cent, E. 1 per cent (October 9).

[Note: Climbing white blood cell count.]

Urine: Midstream. Culture: *Staph. albus* isolated from fourth culture on October 10 after three negatives.

Stools (6): Culture Nil pathogenic isolated. Sigmoidoscopic examination revealed nil of note.

Screen Diaphragm (October 4): "Lung fields and mediastinum normal in appearance. Right diaphragm elevated, flattened, movement restricted; obliteration of costophrenic angle suggesting adhesion. Liver pathology as origin cannot be excluded."

Blood culture sterile (October 2).

Blood Culture: Haemolytic *Staphylococcus aureus* (October 10).

Urine: Microscopic. N.A.D.

Low-grade irregular pyrexia continued, the patient had marked sweats in the early mornings with severe pains in his shins and joints. Stools showed no *E. histolytica*, etc. In view of radiological findings and rising white blood cell count a course of emetine HCl. as for hepatic amebiasis, was commenced on October 6.

However, the clinical picture was very strongly suspicious of a septicæmia. There was the unhealed boil, the febrile illness, the sweats and joint pains together with a rising white blood cell count and finally the positive blood culture. The latter was repeated but this culture was sterile.

The following course of penicillin was commenced on October 15 at 1900 hours:

Initial dose—25,000 units I.M. At three-hourly intervals 15,000 units I.M. for four days. Then at four-hourly intervals 15,000 units I.M. for three days.

W.B.C. 11,500/c.mm. N. 72 per cent, L. 24 per cent, M. 2 per cent, E. 2 per cent (October 16).

W.B.C. 9,000/c.mm. N. 74 per cent, L. 18 per cent, M. 2 per cent, E. 3 per cent, B. 3 per cent (October 22).

He lost one stone in weight during his present illness.

A case such as this, especially in view of the radiological findings, might be confused with clinical hepatic amebiasis, as indeed it was, and as such cases quite understandably are known to be because of the liver being a not uncommon site of localization in staphylococcal septicæmias. Another never-to-be-forgotten site of localization in staphylococcal septicæmias is bone; two cases of osteomyelitis of a transverse process leap readily to mind.

Another point which I feel should be emphasized in cases of pyrexia of doubtful origin is a repetition of investigations including oft-repeated total and differential white blood cell counts as for a varying length of time a white cell count below 10,000/c.mm. is a frequent finding in staphylococcal septicæmia.

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