PERTUSSIS WITH A LEUCOCYTOSIS OF 176,000.*

BY

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THIS case is reported for two reasons. No other white blood count of such a high figure (176,000) has come to the notice of the writers, excluding those found in leukaemia. It is hoped that publication of such a leucocytosis in connexion with a case of whooping-cough may arouse speculation as to the possible reasons for its coexistence with this disease.

The patient, a female child aged 1 year and 9 months, was admitted to St. Bartholomew's Hospital under the care of Dr. Hugh Thursfield, to whose kindness the writers are much indebted for permission to publish the particulars of the case. The child was admitted with fever (102°), dyspnoea, and tachypnoea (rate 60), and with signs of bronchopneumonia in both lungs, especially the right; an ulcer was present on the fraenum linguae.

History of the Condition.—For the preceding twelve days the child had been subject to fits of coughing of gradually increasing severity and duration. During the later attacks she was alleged to have become blue in the face. The cough was paroxysmal and composed of numerous successive expiratory efforts. No whoop had been heard. The attacks were followed by vomiting.

Course.—Fever, tachycardia, and tachypnoea persisted for six weeks, during which time the pulmonary signs gradually cleared up. The child was discharged after a stay in hospital of seven weeks and an illness of nine weeks' duration.

Blood Counts.

The first white blood count was taken on November 28th, the sixteenth day of the disease; it showed 176,000 white cells per cubic millimetre, of which 116,000 were lymphocytes; the dates of the successive counts are shown in the chart. The black line in the diagram represents the total white blood count, the divided line the number of lymphocytes, and the dotted line that of polymorphonuclear cells.

In connexion with the high lymphocytosis observed, it is interesting to compare the results of two German observers.

Reiche¹ reports an outbreak of influenza in a ward devoted to whooping-cough. He says that 8 of the 16 cases already in the ward were attacked by influenza, and that one in the early stages of both diseases was admitted soon after. The latter case had a white count of 172,000—a figure nearly identical with that noted in the case herein described. He would seem to think that the mixing of the infections was the reason for the high figure. The explanation would be applicable to this case, seeing that it undoubtedly occurred early in the present epidemic of influenza. All evidence, however, is valueless while the cause of influenza is yet unproved.

Hess² of Frankfort alleges that the lymphocytosis of whooping-cough is the direct mechanical result of the paroxysms; he has made numerous blood examinations, and states that the lymphocytosis is greatest in the paroxysmal stage—indeed, that the highest figures actually coexist with the height of the paroxysms themselves. He suggests that the paroxysms, by increasing intra-abdominal pressure, squeeze lymphocytes out from the spleen and the thoracic duct into the circulation.

The present case also seems to show that the lymphocytosis is high at the end of the paroxysmal stage. Clinically, although the white count fell from November 28th till December 9th, no improvement was obvious. That this fall in the count was of good prognostic significance is suggested by the fact that from the latter date improvement was pro-

gressive. It is interesting to observe that the excessive lymphocytosis—presumably a manifestation of active pertussis—was present sixteen days after the onset of the disease.

REFERENCES.

¹ Reiche: *Muench. med. Woch.*, 1920, 67, 152. ² Hess: *Zeit. f. Kinderheilk.*, 1920, 27, 117.

Memoranda:**MEDICAL, SURGICAL, OBSTETRICAL.****REACTION TO TREATMENT BY KLEBS-LOEFFLER'S BACILLUS VACCINE.**

WHEN so much is being written for and against vaccine therapy the following account of a case under treatment in hospital may be of interest, especially as one has read a lot concerning the freedom from reaction of patients who have been treated by certain types of vaccine.

In February, 1921, a patient, aged 18 years, was admitted to the diphtheria block of this hospital as a case of faucial diphtheria. Microscopical investigation showed that this was indeed the case, and the usual treatment was given, including antitoxin, and the patient was discharged on March 3rd, after an uneventful recovery. On November 4th she complained of sore throat, and a swab having been taken by her doctor and examined by me, the Klebs-Loeffler bacillus was found. On admission to hospital her tonsils were found to be dotted over with pieces of membrane, the constitutional disturbance of the patient being very slight. No antitoxin was given, and from inquiries into the history the case was looked upon as one in which the diphtheria bacillus had been lurking in the tonsils and throat. A course of vaccine treatment was begun, the ordinary stock vaccine being used (strength: 1 c.cm. = 50,000,000 organisms). I began by giving 0.5 c.cm., and the list below shows the dates of administration, dosage, temperature, and pulse rates:

Date.	Dose.	Temperature.	Pulse Rate.
Nov. 5	0.5 c.cm.	98.2°	72
" 9	0.75 "	93.6°	90
" 13	1.0 "	97.6°	80
" 17	1.0 "	98°	80
" 18	nil	99°	86
" 19	—	98.2°	88
" 20	—	99.6°	98
" 21	—	100.6°	98
" 22	—	101°	96
" 23	—	101°	100
" 24	—	101°	96
" 25	—	100.4°	96
" 26	—	99.6°	88
" 27	—	98.2°	80

On November 18th, the day following the final injection, which was given in the right arm, a localized swelling and tenderness were present at the site of injection. On the 21st the left arm and forearm became almost covered with raised, red, erythematous-looking spots, which varied in size from 2 by 2 inches to 1/2 by 1/2 inch. They were exceedingly painful, gradually increased in size, and many became confluent, forming large, inflamed patches, darkish-red in colour, and showing black staining beneath. The right arm by this time was greatly enlarged, with the appearance of a very severe cellulitis. On the 25th a similar eruption appeared on both legs, the spots being again painful and exquisitely tender to the touch. The patient complained of pains in the elbow and also in the knee joints, and the general condition was alarming. On the 27th the temperature dropped, and the pain in arms and legs disappeared. The many patches on the arms and legs began gradually to fade, but in disappearing they passed through exactly the colour changes which a traumatic extravasation of blood undergoes in the tissues.

At present, with the exception of dark staining on the arms and legs, the patient feels quite well. The Klebs-Loeffler bacilli have disappeared from the throat.

I am much indebted to the M.O.H. for Brighton, Dr. Duncan Forbes, through whose courtesy I am enabled to publish this case.

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RUPTURE OF THE EXTENSOR LONGUS POLLICIS TENDON.

I WAS much interested in paragraph 136 of the *Epitome of Current Medical Literature* (February 11th) on "spontaneous" rupture of the extensor longus pollicis tendon after Colles' fracture, as recently I had a case of this obscure complication.

Mrs. B—, aged about 55, a farmer's wife, sustained an injury to her right wrist by a fall at the beginning of December, 1921. Thinking it was merely a "sprain," she paid little attention to it at the time, and, in fact, proceeded with a big baking. It was not until nearly a fortnight later that she consulted me about the persistent pain, swelling, and

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