examined from time to time on the agar films. The numbers of living and dead corpuscles were counted and averages taken.

2. The same experiment and control were repeated with the blood of persons suffering from acute rheumatism.

3. The effect of placing chorea leucocytes in the plasma of other patients suffering from chorea was tested against a control.

4. The result of adding rheumatic leucocytes to chorea plasma was observed.

The results of these experiments show (1) that there appears to be in the blood plasma of patients suffering from chorea a poison which is toxic to the leucocytes of healthy persons, and (2) that in the case of rheumatism the plasma does not appear to be so uniformly toxic; in fact, it seemed to be hardly at all poisonous to healthy leucocytes.

Next comes the question, Does any immunity exist between the two diseases? If I place the corpuscles of a chorea patient in the plasma of another chorea patient, they will live nearly as long as the corpuscles of a healthy person's will live in another healthy person's plasma, showing that to some extent the blood cells have become immune to the toxin. This being so, if the toxin in acute rheumatism is similar to that in chorea, the same evidence of immunity should exist when the corpuscles of the rheumatic patient are placed in the plasma of a patient suffering from chorea. When this experiment was carried out, however, it was found that their lives were invariably shortened, and one may infer from this that at all events some difference exists between the poisons in the two conditions.

H. C. Ross has recently made a very instructive experiment showing the value of this method of estimating cellular immunity. I had in the Royal Southern Hospital some time ago a man who had been a morphinomaniac for years, and who habitually took large doses of the drug. His arms presented a mass of cicatrices caused by hypodermic punctures. It was found that his leucocytes lived longer in a citrated solution of morphine than a healthy man's leucocytes did in the same solution under exactly the same conditions, and the lasting properties of this immunity appear to be demonstrated by the fact that the leucocytes of another patient who had been addicted to morphine, but who stated that she had taken none for five months, still appeared to be more or less immune.

We have not been able to tell experimentally whether the immunity in chorea is similarly lasting, but clinically we know how apt the disease is to recur. We hope some time hence to repeat our observations on the bloods of the same patients to test this point. In all probability we shall find that immunity of a lasting character is manifest when the corpuscles of people who have scarlatina—or other infectious diseases which confer immunity—are placed in the plasma of patients actually suffering from these diseases, whereas the same plasma will prove exceedingly poisonous to the corpuscles of those who are unprotected.

There is just one other point to note with reference to the blood conditions found in chorea and acute rheumatism. In the first two cases of chorea which were investigated there was a marked eosinophilia. The counts showed 20 per cent. of eosinophiles in one and 16 per cent. in the other. I thought this might possibly have been due to some unsuspected intestinal parasites, but examination of the stools for eggs, etc., gave absolutely negative results. Six or eight chorea bloods have been examined since then, and, with one exception, they have all presented this peculiarity.² There has been no eosinophilia in any of the numerous cases of acute rheumatism we have examined, and we have here another important distinction between the two diseases. It is noteworthy that this eosinophilia was present in the blood of the child who developed the disease in hospital, and who has been already referred to as occupying a bed next to a chorea patient.

The observations which I have made in my opinion tend to confirm the suspicion that there is less real association between chorea and rheumatism than is generally thought to be the case, and that chorea may be due to an infective toxæmia of distinctive character.

REFERENCES.

¹ *Lancet*, February 6th, 1903. ² Eosinophilia in chorea has been previously recorded by Cabot, *Clinical Examination of the Blood*, 1904. Cabot notes similar observations by Brown, *Maryland Medical Journal*, 1902, and Burr, *Univ. Med. Mag.*, ix, p. 163.

A CASE OF ENTEROSPASM SIMULATING ACUTE OBSTRUCTION.

BY
F. E. WYNNE, M.B., LEIGH, LANCs. and F. P. STURM, CH.B., LEIGH, LANCs.

CASES in which the existence of enterospasm has been demonstrated during operation are still sufficiently rare to justify the publication of the following:

Mrs. G., aged 45, was seen by us in consultation on June 19th last, and was found to be suffering from symptoms which pointed to acute obstruction.

History.

Several similar attacks in the past had been diagnosed as biliary colic. Three years previously acute obstruction had apparently supervened, but while arrangements were being made for immediate operation the bowels acted naturally and all symptoms subsided.

State on Examination.

When we saw her there had been no motion for four days, there was incessant vomiting, and intense pain which could be localized neither by the patient nor by palpation. The abdomen was distended and tympanitic, with some dullness in the right iliac region. Abdominal respiration was present but impaired. The temperature was normal, the pulse 150, the facies typically abdominal. The diagnosis appeared to lie between obstruction from an impacted gall stone and appendicitis. The patient was in an extremely critical condition. Operation was offered and accepted.

Operation.

The abdomen was opened in the middle line between the umbilicus and pubes. Coils of distended small intestine immediately crowded into the wound. These being protected by hot sterile cloths, a hand was introduced and a careful examination made of the abdominal cavity. The gall bladder was empty, the hernial orifices free, and the large intestine normal from the hepatic flexure to the rectum. The caecum was obscured by adhesions. Upon withdrawing the examining hand a coil of collapsed and almost bloodless small intestine followed into the wound. The distended jejunum was traced downwards in search of a constricting band or other cause of obstruction. About 2 ft. beyond the ligament of Treitz the jejunum merged suddenly into the coil of collapsed gut. There was no band nor any other constricting cause. The gut below the constricted coil was normal. The constriction was moving slowly but distinctly upwards—a fact that was confirmed by each of us and also by Mr. Pickup who was administering the anaesthetic. One of the distended coils was opened and evacuated. It was then found possible to return the intestines and examine the appendicular region. An enlarged and congested appendix containing a concretion which proved ultimately to be a gall stone, was with difficulty dug out of the usual nest of adhesions deep in the pelvis. The accompanying photograph shows the appendix slit open, with the gall stone in a pouch of the swollen mucous membrane.

Death.

The wound was closed and the patient put back to bed. She never rallied from the shock of the operation, in spite of intravenous transfusion of saline, but died at 8 o'clock the same evening.

The following points of interest emerge:

1. The association of old appendicular trouble with enterospasm suggests a reflex origin of this curious condition, and a possible explanation of certain cases of faecal vomiting, as the peristaltic action was reversed.

2. The history of repeated attacks of biliary colic is curious since only one gall stone was found, and that in the appendix. Many other gall stones must have succeeded in passing the trap.

3. A similar, though much less severe, attack three years previously had been relieved by a natural action of the bowels.

4. The case was a perfect clinical picture of acute abdominal mischief, but without the abdominal rigidity usually associated with such conditions.

5. The unexpected collapse and death suggests that even a moderate amount of abdominal manipulation in these spastic conditions of the bowel involves an inordinate degree of shock, a conclusion that is confirmed by the results of the majority of the other few cases of enterospasm that we have seen recorded.