5,300,000 red and 10,000 white corpuscles, with 85 per cent. of hemoglobin. The stomach contents after a test breakfast contained free hydrochloric acid, no lactic acid and no blood. Total acidity 0.54 per cent. Capacity five pints. Digestion leucocytosis was present, but not marked.

The diagnosis at that time was "hyperacidity." Eight days later he was discharged, having been much benefited by lavage, frequent feeding, and especially by large doses of sodium bicarbonate. For the further history of the case the writer is indebted to Dr. G. Liebmann, of Boston, who had charge of it.

On April 7th the vomiting had ceased, but the patient was losing flesh. A distinct resistance was felt in the region of the pylorus.

November 12th. He had been suffering for six weeks from severe epigastric pain without much falling off in weight. Near the pylorus was a smooth, hard tumor, tender to pressure.

November 26th. Some improvement had taken place from daily washing. After a test breakfast the total acidity of the gastric contents were 0.8, hydrochloric acid 0.27 per cent., and lactic acid present in small amount.

December 7th. He died after several very profuse hemorrhages. Unfortunately no autopsy was made.

Probably the case was one of ulcer at the pylorus; and with this diagnosis the chemical analyses and presence of digestion leucocytosis perfectly accord, but the appearance a few weeks before death of a tumor which had previously not been present makes it impossible to rule out cancer. This case is therefore left out in all the conclusions hereafter to be drawn.

Examining the remaining group of 12 cases of non-malignant disease of the stomach, it is seen that in three tumor was present, in two hydrochloric acid was absent, in five lactic acid was present, and in three digestion leucocytosis was absent.

To summarize the 29 cases and compare the relative value of the various tests in the diagnosis of gastric cancer, we find that tumor was misleading in seven instances, hydrochloric acid in six, lactic acid in nine, and digestion leucocytosis in five.

Since hydrochloric acid is such an important factor in digestion, it might be supposed that digestion leucocytosis would depend upon its presence; but this is not always true, as illustrated by cases in which digestion leucocytosis is marked and hydrochloric acid absent, and, on the other hand, by cases in which hydrochloric acid is present and digestion leucocytosis absent. At autopsy the location and extent of the cancer in no way explained the occasional absence of hydrochloric acid or digestion leucocytosis.

As to the practicability of the digestion leucocytosis test, objection may be raised on the ground of danger to the patient from the proteid meal, especially in ulcer of the stomach; and of difficulty in the technique. In regard to the danger, the proteid meal is not much more irritating than the ordinary test breakfast; and, on the other hand, does not involve the risk of the tube. When there is fresh bleeding both measures are, of course, contraindicated. The difficulty in carrying out the test is that much more training and time is required than in the test for hydrochloric acid.

From this limited number of cases the following conclusions may be drawn:

(1) Digestion leucocytosis is absent in most cases

of cancer of the stomach, but not invariably so, as the results of Müller, Schneyer and Hartung would indicate.

(2) Digestion leucocytosis is present in ulcer and simple dilatation of the stomach.

(3) In chronic gastric catarrh digestion leucocytosis is frequently absent.

(4) The presence of digestion leucocytosis does not necessarily depend upon the presence of free hydrochloric acid.

(5) The presence of digestion leucocytosis is more against cancer of the stomach than its absence is in favor of that diagnosis.

(6) In spite of its limitations the digestion leucocytosis test seems of equal value with the hydrochloric acid test in the diagnosis of cancer of the stomach.

Clinical Department.

A CASE FOR DIAGNOSIS.¹

BY C. G. CUMSTON, M.D.

THE interest of this case I desire to report is marred because the microscopical preparation that I had to show has faded, and nothing can be seen. I thought it rather apropos to report it to-night on account of the present epidemic of cerebro-spinal meningitis. I will state briefly the case, and leave the diagnosis for you to make:

A lady about thirty-four I saw two years ago with pus-tubes. At that time she had tubes on each side about the size of lemons, and simple treatment with mercurial ointment was sufficient to cause them to break down and discharge through the uterus. From that time to the present illness there have been no symptoms in the genital organs. The husband had syphilis ten years before he was married, was treated by a specialist, and had seen nothing of the disease for five or six years before he was married. He had had several gonorrheas, which had left him with a gleet; and after having treated the manifestations in the tubes of his wife I examined with some difficulty a drop of mucus taken from the meatus in the morning and found one or two gonococci. Since then I have treated him surgically, and his gleet has stopped.

On the 10th of this month I saw the patient in question. She had last summer what might be called a slight sunstroke, was in bed four or five days. She was at Mt. Desert, had been rowing without her hat, and she had certain symptoms which led me to suppose that there was a slight overheating of the head. This winter she was down town when the explosion occurred, and the windows of her carriage were broken by the shock near the old Public Library. This added to her already excited nervous condition. On the 10th of this month I was sent for. I had seen the patient the day before, and she was seemingly very well. I found her in the afternoon with a temperature of 39.4°, chills, with the bright-red coloring of the face which you find in pneumonia, and, in fact, every appearance of pneumonia—pulse 130, hyperesthesia all over the skin of the trunk and arms, the legs apparently not being involved in this hyperesthetic condition and severe cephalalgia was complained of. At my even-

¹ Read before the Clinical Section of the Suffolk District Medical Society, April 21, 1897.

ing visit, about five hours later, the temperature had dropped to 37.8° and the pulse to 102, and she was feeling better. I had some of her sputum collected, but what the nurse gave me had not the rusty color of pneumonia. The next morning her temperature was 37.5° , the pulse had dropped to 86, and the respirations, which were 32 the day before, had dropped to 18. The hyperesthesia still continued, and the patient still complained of considerable headache in the frontal region. In the afternoon the temperature was 37.9° , the pulse had increased in frequency, the headache was more severe, there was pain in the muscles of the neck, and the patient then began to present the characteristic symptoms of a cerebro-spinal meningitis. In the lung, in consultation with Dr. Sumner, a focus of pneumonia in the left lower lobe about what might be covered by the end of the stethoscope was discov-

ered, and that was the only lesion in the lung we could find. To be brief, the case went on in this way: The headache increased the second night so that it was intolerable; she protruded her tongue towards the left; pressure over the eyeballs was painful; and stiffness of the neck was complete. Blood examination revealed a slight leucocytosis. On the fourth day a labial herpes appeared and on the seventh the same eruption was present on the left labium majorum. The treatment I instituted was pomade of mercurial and simple ointments, equal parts, and to every thirty grammes of this five grammes of iodol were added. Chloral hydrate, one gramme, as often as required. The patient has begun to improve since she received this treatment, and is now convalescing. The pulse is normal, respirations have dropped, temperature normal. The headache gradually subsided and by the tenth day only soreness of the neck was complained of.

On the second day, when I examined the sputum, I found what I thought were gonococci; and I came to the conclusion that my glasses were not clean, and made more preparations and found the same organism. In looking over the *Boston Medical and Surgical Journal* of this week I found an editorial on the lanceolatus in the pus from cerebro-spinal meningitis. In examining carefully I could find these cocci were distinctly limited by a membrane, so that I came to the conclusion I was dealing with the pneumococcus lanceolatus.

Was I dealing with a case of cerebral syphilis, cerebro-spinal meningitis with a primary focus of pneumonia in the lung, or infection due to the former lesion in the tubes and ovaries? I cannot say; but my impression is that the case was one of infection of the envelopes of the brain and spinal cord, having for a starting-point the small focus of pneumonia in the base of the left lung produced by the pneumococcus lanceolatus from which the organism invaded the brain and cord, giving rise clinically to a cerebro-spinal meningitis.

The chart is shown herewith. It was taken by the nurse, and verified by me at each visit.

I would add that during the first week the patient received by inunction 75 grammes of iodol and 22 grammes of metallic mercury. No untoward effect was produced.

N. B. October 15, 1897. The patient has improved wonderfully during the summer. The tongue continued to be protruded to the left until September, but now is normal. Patient has gained four kilogrammes in weight and her head is perfectly clear.

A CASE OF DIPHTHERIA OF THE VULVA.¹

BY W. P. COUES, M.D.

CORA L., age eight months, was admitted to St. Mary's Infant Asylum, April 6, 1897. A complete past history was not obtainable. The father lived in Boston, and had put the child out boarding before she entered St. Mary's.

On April 7th my attention was called to the child by the nurse, who informed me that the child had passed no water that day, and that there seemed to be something wrong with the vulva.

Examination showed a feeble, ill-nourished child of eight months. The labia minora were greatly swollen, of a deep-red color, with two patches of grayish-yellow membrane, the size of one's little finger nail, on either side. Temperature 99.5° , pulse 128. A hot bath was ordered, and a sulpho-naphthol poultice to the vulva, the child to be catheterized, if necessary.

On April 8th the general condition was about the same, the child had urinated without catheterization. The labia were less red and swollen; the membrane was the same.

The aspect of the case was clinically so like diphtheria that I decided to take a culture; and on April 10th the card came back positive.

The membrane by this time had spread somewhat over the labia minora, and two small spots appeared on either labia majora. The general condition of the child was worse. She was weak and fretful. Temperature 100.8° , pulse 130. An injection of five cubic centimetres of antitoxin was given in the left axillary line.

¹ Read before the Clinical Section of the Suffolk District Medical Society, May 19, 1897.