nothing abnormal in heart or lungs. Temperature and pulse were normal. The patellar-tendon reflex was present. There was no anæsthesia of the skin. The urine was normal in every respect.

Examination of the eyes showed the conjunctiva, cornea, and iris to be normal. Movements good. R. only perception of light. L. V.— $\frac{2}{3}$; F. contracted in all directions, but to much greater degree upward and outward. Media clear. In both eyes the discs were sharply defined, gray with slight bluish tinge, without vascularity; the central vessels, both arteries and veins, small; in other respects the fundus normal.

Some weeks later the patient was admitted to the hospital, in the nervous and renal department, and remained for about a month. During this time her general condition remained the same, but the vision of the left eye varied somewhat; on September 9 it was recorded as $\frac{2}{3}$, but when I saw her last, at the end of September, and a fortnight after she had left the hospital, it was $\frac{2}{3}$ — $\frac{2}{3}$. No farther symptoms had developed.

CASES OF URINARY CALCULI.

BY FREDERIC HENRY GERRISH, M.D.,

Surgeon to the Maine General Hospital, Portland; Professor of Anatomy in Bowdoin College, etc.

CASE I.¹ N. F., a farmer, aged seventy-five, for more than half a century a resident of Penobscot County, Maine, consulted me on the twelfth of May, 1883. He had experienced more or less uneasiness in the region of the bladder for twenty years, and, nine years before my seeing him, had an attack characterized by such difficulty in micturition that he was obliged to have his urine drawn for some weeks regularly, and at intervals afterward. For the past four years it has been necessary to resort to the catheter almost every day, and his trouble has been so much worse during the last eighteen months that he has had to abandon all labor. There is pain nearly all the time in the penis, and, at the neck of the bladder, pricking pain, which is much greater when he is sitting. Consequently, he keeps on his feet a great deal, moving slowly about with a cane in each hand, relieving himself occasionally by kneeling beside a sofa or bed, on which he rests his elbows. If the urine is allowed to accumulate for more than an hour, his suffering is aggravated. He is always more comfortable, sometimes entirely so, for a short time after evacuating the bladder; and, as the ease is much greater after drawing than after passing water naturally, he commonly empties the viscus artificially. There is occasional priapism, and, during urination, the stream is liable to stop suddenly. The urine contained a large amount of phosphates and many granular casts a year ago; but a recent examination shows that there are no casts and no albumen. In the twenty-four hours selected for the test, he passed his water naturally thrice, and drew it off twenty-five times; seventy-two fluidounces was the entire result of these twenty-eight evacuations, showing that the bladder

could hold two and a half ounces without such distension as to cause agonizing pain. A year ago he began to use morphine, at first in ordinary amounts; but the dose was gradually increased, and his daily allowance now is more than five grains, usually taken in two equal parts, one in the morning, the other at night. His appetite and digestion are excellent, the pulse, respiration, and temperature normal. There is some constipation, and the thirst is considerable. His strength is failing, he is pale, haggard, emaciated, and his face indicates long-continued suffering.

The patient having been put to bed, a twenty-three French steel sound was readily introduced, and immediately touched a stone. The examination caused so much pain that it was thought best to give an anæsthetic before completing the exploration. Ether was given, and a thirty sound was easily passed without enlarging the meatus. The calculus was free in the cavity. The prostate was found to be much enlarged laterally. A suppository, containing eight grains of quinine, was given, and no inconvenience resulted from the examination.

After keeping the patient under observation a week, I determined to attempt litholapaxy. Ether was administered, two ounces of water were injected, and a Bigelow lithotrite introduced without difficulty. But, though I could easily reach the stone with a metallic catheter or sound, I could not touch it with the lithotrite, though my efforts were continued for an hour and a half, and only abandoned then because of my fear that longer instrumentation would harm the patient. No unfavorable symptoms succeeded this severe trial of the patient's strength, the pulse kept below ninety, and the temperature never rose above the normal line.

After five days, lithotripsy was again essayed, Prof. S. H. Weeks, Dr. L. W. Pendleton, and Dr. I. E. Kimball kindly assisting. The result, however, was the same as before; the lithotrite was inserted with perfect ease, but its movements in the bladder seemed to be interfered with by obstacles which were not apparent when a sound was introduced, and it never touched the calculus. My colleagues had an equal lack of success, and it was decided to perform lithotomy. Accordingly I operated, adopting the lateral method. For some minutes I searched with my forefinger in the meshes of the strong bands which seemed to cross the cavity of the bladder in every direction, breaking some of them in my efforts to explore thoroughly, but I did not find the stone. On withdrawing my finger, I felt, close to the neck of the bladder, a sharp, transverse ridge, behind which I pushed the digit, which immediately entered a larger sack with smoother walls, and here the stone was found lying entirely free, and was quickly extracted with the forceps. It measured one inch and a quarter (32 mm.) in its longest diameter, and weighed one hundred and thirty-four grains (8.7 grams). It was rough, and evidently phosphatic.

The reason of the failure to reach the stone with the lithotrite was now plain: the bladder was divided into two parts by a vertical, transverse partition, the lower edge of which extended to the neck of the organ. An instrument whose beak was long

¹ Reported to the Maine Medical Association.

and had a sweeping curve, like a catheter, would slip behind this septum; whereas, one with a short beak and a sharp bend, like a lithotrite, must go in front of it. The sounds struck the calculus, because they were carried into the posterior chamber; the crushing instrument never came in contact with it, as it always got into the anterior compartment.

For three weeks everything progressed very favorably. The pain was so largely diminished that the amount of morphine required to control it was immediately reduced to a grain a day, and then gradually to less than half a grain. The wound partially closed, until the greater part of the urine was passed by the natural channel. But then the reparative powers refused to continue their work, the strength of the patient perceptibly diminished, and he lost ground slowly, but steadily, until the 7th of July, when he died, forty-four days after the lithotomy.

At the necropsy it was found that the walls of the bladder were immensely thickened; the lining membrane was inflamed and covered with a smear of mucus, mingled at spots with a phosphatic deposit of the consistency of soft mortar; the partition was thin, but firm, resembled mucous membrane, and divided the cavity into two unequal compartments, the anterior being the smaller, and traversed by trabeculae of (apparently) inflammatory formation.

The case is reported on account of the deformity of the bladder, which is sufficiently uncommon to deserve recording. It is possible that the failure of eminent surgeons to discover stones, whose presence has been demonstrated previously, may sometimes be accounted for by such an abnormality of structure. The result of treatment would probably have been different if the operation had been performed before the vitality of the system had been undermined by years of suffering.

CASE II.¹ E. H. B., a store-keeper, aged seventy-three, a resident of Portland for many years, presented himself for treatment on the 29th of June, 1883, with the following history: He has always been strong and well, an attack of erysipelas in the face being the only illness he can recall. He has been accustomed to take frequent plunges in the salt water, and I had heard that he practised sea-bathing all the year round; but this rumor he stated was incorrect, modestly saying that he had never taken a swim earlier than the 14th of April, or later than the 24th of November. He is used to hard work, and has always been a plain, temperate liver.

About six weeks before he came to me, he began to have frequent desire to urinate, and micturition became painful. The distress was altogether in the region of the bladder; there was no sudden stoppage of the stream. The urine was not abnormal. His general condition was excellent. A twenty-three French sound struck a stone immediately. At several following sessions sounds of gradually increasing size were introduced for the purpose of educating the urethra, of ascertaining the effect of instrumentation, and of dilating the passage up to the size of the lithotrite. No chill or inconvenience was ever experienced, excepting the pain incident to the passage of the instrument.

¹ Reported to the Practitioners' Club, Portland.

The symptoms, however, speedily grew worse: the stream of urine was frequently arrested, the desire to empty the bladder came at shorter intervals, and the pain became more severe. In twenty-four hours he passed thirty-four fluidounces of urine, evacuating the bladder eighteen times.

On the fourteenth of July, assisted by the gentlemen who were with me in the former case, I performed litholapaxy. The etherization occupied but four minutes. The Bigelow lithotrite quickly grasped the calculus, which measured an inch in diameter, and was very hard. It was crushed in a few minutes, without removal of the instrument. The fragments were washed out easily. The entire procedure occupied forty-one minutes. A suppository of quinine and morphine was given before the patient awakened from the ether-sleep; no other anodyne or antipyretic was required during the convalescence. With considerable difficulty the patient was persuaded to stay in bed about a week, although he protested he was entirely well; and, on the eleventh day, he walked a mile to his warehouse and back again without discomfort or exhaustion. A year and a half has elapsed since the operation, and there has been no sign of a recurrence of stone. The patient's health is perfect.

The fragments when dried weighed one hundred and thirty-one grains (8.5 grams). The pieces which came from the surface of the calculus were of a dark-brown color, tuberculated, and so hard that they were scarcely affected by the file; others, evidently from the inner parts, were whitish, and tolerably dense; and those of a third variety were of a light brownish hue, and friable. Dr. Edward Preble examined them chemically and microscopically, and decided that the calculus was made up of oxalate of lime, simple and triple phosphates, and urate of ammonia.

REPORT ON SURGERY.

BY A. T. CABOT, M.D.,

Surgeon to Out-Patients, Massachusetts General Hospital.

ACTION OF ERYSIPELAS UPON MAMMARY CANCER.

DR. JANICKE² and PROFESSOR NEISSER report a case in which erysipelas was inoculated upon a breast with an inoperable cancer. The organisms (micrococci) used in the inoculation were obtained from Dr. Fehleisen, who had prepared them in a pure form by cultivation upon meat-gelatine. The patient was a woman forty years of age. The tumor was of rapid growth and had recurred after two removals. A little mass of micrococci, about as large as the head of a pin, was rubbed into a small surface of skin, carefully scarified.

Within seven hours there was a violent chill, and a blush appeared which rapidly extended and was accompanied by high fever. Death occurred at the end of the fourth day.

Even in this short time a very decided change was noticed in the cancerous mass, which became smaller and softer.

The *microscopical examination* confirmed the

² Central bl. f. Chir. June 21, 1884.