

were selected and brought up under precisely similar conditions. Starting on a fixed day, two of them were chased about in a large room for an hour and a half or two hours twice every day (morning and evening) during six months. The other two were not chased about, and with this single exception all were treated exactly alike. Once a month during the time of the experiment the four animals were weighed, and finally were killed by having their throats cut. The result of careful examination of the hearts showed that in the chased animals there was an increased circumference; thickening of the wall on the right side, thinning of the same on the left; increased breadth of the muscular fibrils of the right side of the heart and diminished breadth of the same on the left. The aorta in the chased animals had a greater diameter; the pulmonary artery, on the other hand, had similar dimensions in all the animals. The weight of the heart in the chased animals was somewhat diminished in comparison with the others. The whole weight of the body was altered, so that the increase in weight of the chased animals was far less than in the others. With regard to the heart, the author believes the physiological explanation to be as follows: Under the influence of great exertion hypertrophy of the left ventricle occurred; later, on account of too great distention, a diminution in the thickness of the walls followed; then came hypertrophy of the right side of the heart, and the section was made at a time when the walls of the right side of the heart had not yet been able to become thin.

#### THE PATHOLOGICAL HISTOLOGY OF ACUTE PAROTITIS.

Dr. Wendt,<sup>1</sup> of New York, has published a contribution to the minute anatomy of this disease, based upon the study of an inflamed gland. He found that the morbid process passed through several stages, with the ultimate possibility of complete restoration of the gland to its normal condition. The first stage of the disease was one of congestive hyperæmia, the arterioles and capillaries being packed with blood elements. Then came a stage of exudation, accompanied with the emigration of many leucocytes. Rupture of capillaries occurred simultaneously with this action. Then followed a period of epithelial hypertrophy and hyperplasia, caused, according to the author, by the stimulus of excessive blood supply to its secreting acini. Soon, however, the epithelial cells underwent cloudy swelling, and then fatty degeneration. The products of this process accumulated in the meshes of the interstitial connective tissue. Active proliferation of the secreting cells went on simultaneously with these changes. For this reason the writer expresses his belief in the power of complete glandular restoration. The question whether the disease was a case of mumps or an instance of so-called secondary parotitis was left undecided.

### Hospital Practice and Clinical Memoranda.

#### A CASE OF SHOT WOUND OF THE BLADDER.

BY GEORGE H. BIXBY, M. D., BOSTON,

Late Senior Medical Officer United States Navy Hospital, Mississippi Squadron.

J. C., aged forty-five, native of England, an engineer in the Confederate service, was rescued from the wreck

<sup>1</sup> New York Medical Journal, September, 1880.

of one of the enemy's ships, the boiler of which had exploded during the engagement before Memphis, June 5, 1862. Temporarily cared for on one of the iron-clads, he was transferred to the hospital ship June 11th, six days after, in a very feeble condition. No urine had passed by the urethra since his rescue. He was unable to furnish any information in regard to the circumstances of his injury, having been found in an unconscious state, at least thirty feet from his post of duty near the engine. Inspection showed the following conditions:—

Great swelling and extensive ecchymoses of the left lumbar and gluteal regions; three inches external to the tuberosity of the ischium a circular, ragged wound, fully an inch in diameter, from which a fluid (apparently urine) constantly oozed.

His feeble condition precluded the use of an anæsthetic. Careful explorations with a probe failed to elicit the presence of a foreign body or any evidence of a fracture. Judging from his feeble condition at this stage, the shock had evidently been very severe. There were no data in regard to hæmorrhage. The peculiar form and depth of the wound and the absence of all the ordinary signs of a foreign body were suggestive of splinter wound, not an uncommon occurrence in naval warfare. The patient's condition preventing farther investigation, the diagnosis was pronounced penetrating wound of the bladder from causes unknown.

The treatment consisted in absolute rest in the dorsal position; a catheter left in the urethra, with a vial attached, in order to favor and also to note any signs of a return of the functions of the bladder.

June 16th, fifth day. Fast recovering from the shock; absence of febrile manifestations; urine passing freely and uninterruptedly from the wound.

June 21st, tenth day. Complete recovery from shock; free escape of urine from wound; appetite excellent; no fever; marked general improvement; decided flow of urine from the catheter, much less from the wound.

July 5th, twenty-fourth day. Wound contracting; flow from catheter continues, correspondingly less from the wound.

July 10th, twenty-ninth day. The wound contracted down to a fistulous opening, with slight oozing only; free escape by the catheter.

July 18th, thirty-seventh day. The wound entirely closed; escape of urine in normal quantity and quality without discomfort; catheter removed; general condition excellent.

July 20th, thirty-ninth day. Having hitherto retained the recumbent position, and feeling unusually well, he attempted to sit erect in bed. This effort and change of position occasioned a sudden and acute pain in the pelvis, which compelled him instantly to resume the former position. He compared the sensation to a prick or thrust from a pointed instrument.

This circumstance dispelled all doubt respecting the presence of a foreign body. Accordingly, the following morning the patient was etherized, and a careful exploration of the now healed and consolidated track undertaken. At this stage an entirely different condition of affairs obtained. The swelling had completely subsided, rendering the track not one third its former depth. A probe introduced four inches along the track was arrested by unmistakable evidences of a metallic substance, apparently firmly imbedded in the tissues.

After freely enlarging the opening already made by means of a small lithotomy forceps, I seized and, with considerable difficulty and no little force, removed a fragment of shell of the following form and dimensions: two inches long by one and one half inch in thickness; anterior surface smooth; posterior surface showing points of fracture more or less sharp; weight one ounce.

The treatment which followed was substantially a repetition of the first. Briefly, at the end of six weeks, the wound had firmly healed, and the functions of the bladder were fully and naturally restored.

Five months from the date of the injury, a month at least after he had been walking about the decks, he was discharged and paroled, cured, with the exception of a slight limp, which gave him no pain or inconvenience.

From a careful study of the anatomical relations of the parts involved in the injury, it is evident that the projectile entered the body lengthwise and by its pointed extremity, its course being through the margin of the glutæus maximus, the body of the obturator internus muscles, thence through the obturator foramen, penetrating the bladder, and finally lodging in its walls. If we compare the diameter of the foramen with the greater dimensions of the foreign body, it will become apparent how narrow must have been the escape from a fracture of the pelvis. It is, I think, reasonable, also, to infer that the organ, being distended at the time, offered sufficient resistance to arrest the progress of the intruder, thereby preventing the penetration of both walls of the viscus, and the inflicting of what very likely would have proven a mortal wound.

The late war furnished many cases of shot injuries of the bladder, a large number of which have been carefully collected and graphically described by Surgeon Otis, United States Army, in Volume II. Part 2 of the Medical and Surgical History of the Rebellion. A perusal of this most valuable contribution to surgical literature will richly repay any one interested in this department of military surgery.

### Reports of Societies.

#### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 30, 1880. The meeting was called to order by DR. HODGES at 7.45. Sixty members present.

DR. T. B. CURTIS read a paper on the significance of frequent micturition, which will be found on page 51 in this number of the JOURNAL.

DR. WHITE inquired whether Dr. Curtis could suggest any reason for the more frequent micturition during the night.

DR. CURTIS said that he could not; but it was a recognized fact. Contrary to what would be expected, there was an increased secretion during the night.

DR. CORNELL related a case of frequent micturition in a man seventy years old. He was obliged to rise as many as twenty times during the night. He used the catheter to empty the bladder and obtained great relief.

DR. AYER thought that the increased frequency at night was due to nervous irritation, and found that in

many cases he could relieve it by an anodyne remedy. The best that he had used was a mixture of the bromide and iodide of potassium in camphor water. It was not always successful, but gave relief in many cases.

DR. CORNELL inquired if these were cases with enlarged prostate.

DR. AYER said they were, and thought that the good was accomplished by allaying the general nervous irritation.

DR. HARLOW had found benefit follow the use of an opiate in some of his cases; the frequency being diminished. He inquired what was Dr. Curtis's treatment.

DR. CURTIS replied that the treatment depended on the cause. In many of the cases there was inability to empty the bladder without artificial means. The catheter must be used in these cases, and the patient taught to use it. In instituting the treatment, great care should be manifested, as at first cystitis is apt to be excited. He would advise the use of a soft rubber or a Mercier's catheter.

DR. LYMAN thought that the important practical point was to empty the bladder. He did not think it best to quiet by an opiate. Physicians must be on their guard so as not to allow the bladder to fill, and to do this the catheter must be employed. Must not be deceived by the patients passing water, for they could do this, but could not get the bladder empty. He asked if there was any way of making a differential diagnosis when a fluctuating swelling was found above the pubes, in these cases, except by using the catheter.

DR. CURTIS thought there was not. The patient could pass urine easily, though the force of the stream may be diminished, and there may be frequent stops; but these were merely presumptive signs, the use of the catheter being the only reliable one.

DR. HODGES said that in obstructive disease of the prostate one often failed to get relief by not using the right kind of a catheter. We often see patients passing a catheter for years, but still suffering from retention. The trouble was that they were using a silver or stiff catheter. A soft catheter should be used. They may have more trouble in passing it, but Mercier's was generally easily introduced.

DR. CURTIS said that in some old chronic cases the bladder became so changed in shape that it could not be emptied. The walls are thickened, lose their suppleness, and the floor becomes irregular.

#### AORTIC ANEURISM.

DR. F. W. DRAPER presented a specimen of aneurismal dilatation of the arch of the aorta, with indirect hæmorrhage into the pericardium. The patient was a woman, sixty-five years old, spare and ill nourished. She was found dead in bed. So far as could be learned, she had not presented any symptoms referable to the heart or great vessels the day before her death; she had followed her usual pursuits, and had retired in her customary health.

At the autopsy, the pericardium was found fully distended with mingled fluid and clotted blood to the amount of ten fluid ounces. The ascending portion of the arch of the aorta was symmetrically dilated along its convex border, the dilatation being inconsiderable, not above the size of a small lemon. At the upper portion of the arch, immediately to the right of the