peritoneum. The lower portion was of course left open for the drain from the bladder.

Patient recovered well from ether. On the second day the gauze was taken out from the bladder, and an effort made to have the abdominal wound close. The urine, however, seemed much more inclined to drain out through the abdominal opening than through the vaginal fistula. Various methods were tried to carry off all the urine from below: Gauze passed into the bladder from the vagina; catheter passed in the same way and left in; catheter through the urethra. They either would not work or caused intense pain. Patient was propped up in bed, and dressings over upper part of abdominal wound protected by rubber tissue, while dressings over lower part were frequently changed.

Feb. 22, a week after the operation, most of the sutures in abdominal wall had to be removed. There was hardly any attempt at healing. The wound gaped widely; dressed frequently with iodoform gauze.

Feb. 26. Considerable urine still escaping through abdominal opening. Bladder being irrigated right through twice a day.

March 5 showed a much more healthy looking wound, Bismuth formic iodide being used as dusting powder. Wound still gaping quite widely. A number of crusts washed out from bladder.

March 10. Healing progressing rapidly. Very little discharge; sitting up in bed. A week later patient out of bed. The incision closing in.

Progress continued steadily, so that by the first of April the incision was entirely healed. General condition was excellent. There was absolutely no discomfort in bladder region.

The woman had been in the hospital so long that she was not willing to have the vesico vaginal fistula repaired. She promised to return in the fall but has not come yet. I heard from her, however, a short time ago. She said there was no discomfort except from the escape of urine by vagina.

Another time I should be inclined to omit the suprapubic drainage. If packing the bladder is really needed, the drain can be carried through the vagina, and the abdominal wound allowed to heal promptly. The bladder itself can certainly be sutured tightly enough to avoid leakage, if there is free vent for the urine from below.

The temperature rose to 100.8° for several evenings after the operation; 99.5° in mornings. It then dropped to normal and stayed there.

PATHOLOGIST'S REPORT.

Specimen was sent to Dr. Leary, who reported as follows: "Received for examination a large, soggy mass of tissue, 7 x 5 x 3 cm., having for a base an oval, solid, central portion, 3 x 3 x $\frac{1}{2}$ cm. On section, central portion is made up of retracted voluntary muscle fibres and the ragged mass surrounding it consists of thickened submucosa and mucosa, the latter being folded so as to form papillary projections which in places are massed so that an apparently solid surface is presented.

The projections can be separated and followed in many cases for a distance of 1 to 1 $\frac{1}{2}$ cm. from the surface. The submucosa is thickly infiltrated with lymphoid and plasma cells. The mucosa, although increased in thickness through the formation of these papillary masses, does not show increase in the number of cell layers, nor does it show at any point a tendency to invade underlying tissues.

"*Diagnosis.*—Simple papilloma, probably of inflammatory origin."

THREE CASES, TWO OF PAPILLOMA OF THE BLADDER, AND ONE IN WHICH THE DIAGNOSIS OF PAPILLOMA WAS MADE, BUT WHICH TURNED OUT TO BE SOMETHING ELSE.¹

BY F. B. HARRINGTON, M.D., BOSTON.

CASE I. J. P. K., age forty-nine, male. Entered hospital Aug. 20, 1900. Ten weeks ago streaks of blood in urine; rapid increase in amount; constant desire to urinate; anemic. No palpable tumor; lithotrite introduced; a feeling of soft tumor. Lithotrite opened and closed, and a piece of tumor resembling papilloma removed. Suprapubic cystotomy. Pediculated friable tumor at base of bladder in region of left trigonum—base the size of a silver dollar—removed with prostatome to a level with the bladder wall. The base was then curetted. Suprapubic wound in the bladder was closed, as there was little bleeding. The wound closed, and the patient was discharged Sept. 16. Soon there was a recurrence of the symptoms. The patient died a month later, the disease having rapidly returned with great loss of blood.

Dr. J. H. Wright made the following report of the tumor. "The microscopic examination shows that the tumor is of the nature of a villous growth, originating from the mucous membrane of the bladder with invasion of the bladder wall by the growth. The growth is to be regarded as malignant for the following reasons: (1) Because fairly satisfactory evidence was found of the presence of atypical epithelial cells, arranged loosely and in columns, in the submucosa; (2) because of the great variability in size and shape and abnormalities in appearance of the cells. *Diagnosis:* Villous carcinoma."

CASE II. H. H., fifty-nine years of age, male. Two years ago began to have hematuria. This gradually increased in amount. Occasionally the urine was clear. There was no odor to the urine and no great amount of discomfort in passing it. Examination of urine gave no sign of renal disease. No stone could be detected by the searcher. By bimanual examination an indistinct feeling of a soft tumor existed. Suprapubic cystotomy. A small, soft, pediculated tumor the size of a marble was found on the floor of the bladder. This mass was seized with forceps and removed by cutting with scissors, a portion of the bladder wall being incised with pedicle of the tumor. The bladder

Read before the Obstetrical Society of Boston, Feb. 18 1902.

was closed at once, as there was little bleeding. The patient made a rapid recovery and has had no trouble since. The operation was done one year and eight months ago.

Dr. J. H. Wright made the following report of the tumor: "The specimen from the bladder sent to me July 2 is a papilloma. It consists of branching masses of epithelium supported upon a delicate vascular framework. The epithelium is many layers deep and has more or less resemblance to that of the bladder. In a portion of one of the specimens some of the bladder wall is included. So far as the section shows, this is not invaded by the growth. I think the tumor is not malignant."

CASE III. E. S. A., sixty-five years, male. Frequent micturition and some pain for the past five to six years. For the last six months there has been constant hematuria of moderate amount. The searcher shows a hard rounded mass, giving a grating sound, situated on the left side near the neck of bladder. Small bits of calculi have been passed, with shreds of tissue suggesting papilloma. Suprapubic opening made. A small tumor was found on the left bladder wall near the opening of the urethra. It looked like an encrusted papilloma. It was cut out. Patient made a good recovery and was relieved.

"Histologically, this tissue consisted of islands of lymphoid cells, with considerable new-formed blood vessels and connective tissue with granular exudate intermingled with a few leucocytes. Diagnosis: Chronic inflammatory tissue with incrustation."

SMALL PAPILLOMA OF BLADDER CHARACTERIZED BY AN EXCESSIVE HEMORRHAGE; REMOVED BY SUPRAPUBIC CYSTOTOMY.¹

BY MAURICE H. RICHARDSON, M.D., BOSTON.

A MAN of thirty-six, referred to me by Dr. Temple, gave a twenty-five year history of intermittent hematuria, in which the loss of blood was at times so rapid and so excessive that the face presented a startling picture of anemia. He first came to me after a period of bleeding which had left his face, lips and nails without a particle of color. The loss of blood must have been indeed great to produce so excessive an anemia, for he was a large, robust man of unusual vigor.

The urine had been examined by Dr. Woods a number of times, with negative results as to the source of the hemorrhage. Dr. Whitney finally found in a clot evidence of a papilloma (villous cancer).

There were no physical signs of tumor in the genito-urinary tract or in the urine. Suprapubic cystotomy in the Trendelenburg position, performed on Dec. 12, 1901, showed at the left of the trigonum a long, slender-stemmed papilloma with numerous small branches. The bladder at the point where the tumor was attached seemed

perfectly normal. The base of the tumor was tied with a catgut ligature, which immediately slipped, but with no resulting hemorrhage. The base of the tumor was cauterized with the platinum at a red heat. The bladder wound was sewed up with catgut, which gave way the second day. A urinary fistula resulted, which rapidly closed. The patient was discharged well on Jan. 4, 1902. The change for the better in his strength, weight and color was extraordinary.

The diagnosis by Dr. W. F. Whitney was simple papilloma of the bladder, and his report was as follows:

"The specimen removed from the bladder of Mr. W. consists of a papillary growth measuring about 8 cm. in length, rising by a narrow, half-centimetre stalk, from the mucous membrane. Immediately above the surface of the bladder it divides extensively into numerous, long papillary projections. There are small secondary divisions.

"*Microscopic examination* shows the whole surface of a branch to be covered by microscopic elevations, over all of which is a single layer of rather large, slightly irregular epithelial cells. The base of the papilla is fibrous in character, with numerous small blood vessels."

Suprapubic explorations are to be recommended in all cases of hematuria in which, from the urinary examination, there is reason to suspect bladder tumors. Preliminary examinations with the cystoscope and the lithotrite should be made when the patient's strength is good. Exploration by suprapubic cystotomy is indicated early in the history of hemorrhage, for then the patient's powers of resistance are best, and the tumor is more easily and thoroughly extirpated. Prolonged delay is responsible for most of the failures, immediate and remote, that follow suprapubic cystotomy for bladder tumors.

Medical Progress.

RECENT PROGRESS IN NEUROLOGY.

BY PHILIP COOMBS KNAPP, A.M., M.D., BOSTON.

MUSCULAR TONUS.

At the congress of French alienists and neurologists at Limoges, Crocq¹ opened an interesting discussion upon muscular tonus. Muscular tonus is the result of two factors, the muscular elasticity and the permanent excitation coming from the nervous centres. Section of the posterior spinal roots abolishes this tonus, and, in man, complete transverse lesions of the cord, in the cervical or upper dorsal region, abolish permanently and completely the tonus of the voluntary muscles, but exaggerate the tonus of the sphincters. Destruction of the cerebral lobes gives varying results in different animals. In the frog muscular tonicity is an elementary reflex, purely medullary; in man, however, the tonic currents to the voluntary mus-

¹ Read before the Obstetrical Society of Boston, Feb. 18, 1902.

¹ Rev. Neurol., Aug. 30, 1901.