

on the diagnosis of the case, but the functions of the bladder and urethra are suspended for a week or so, and the patient gets well more or less completely. Of this remarkable history there are six examples in the series: of which three, Cases 8, 14, and 35, perfectly recovered, besides three others in which great improvement took place, but not complete recovery, Cases 17, 23, and 41. The result of operation undertaken in the circumstances described, as a last if not almost hopeless resource, has been surprising, and fraught with great interest. I am disposed to think that there are some persons in whom an attack of cystitis with extreme frequency of micturition having been set up, the want to relieve the bladder every half-hour or hour, at first natural and necessary, still continues after the local disease has passed away, in spite of their efforts to overcome it, as the result of what may be regarded as persistency of a morbid habit, in certain constitutions. I cannot further elucidate the pathological condition in any one of them, having discovered nothing by the investigation to account for the symptoms.

Besides these, one case has been already referred to, in which adhesions between the mucous lining of the bladder were separated by the finger, Case 12; there was one case of division of the neck of the bladder which was extremely tight and rigid, Case 41; and one case of hæmaturia in which the surface

of the mucous membrane was studded with numerous minute villous papillæ, removed by scraping, followed by applications of caustic, Case 37. In each of these cases considerable improvement resulted from the proceeding; the last being completely successful.

I cannot but hope that the results reported in these histories may lead to a further employment of this simple operation in cases of like obscurity, feeling sure that much valuable relief to suffering, as well as prolongation of life, may be attained by a judicious application of the proceeding.

FORTY-THREE CASES OF OPERATION FOR DIGITAL EXPLORATION OF THE BLADDER, *performed by the author, and briefly reported, but containing the chief points of the history, progress, and results in each. In twenty instances, tumour of the bladder was met with; in this series that fact only is named; the details will be found in a table at the end of the fourth chapter.*

Case 1.—T. R., 29. Exploration: 1880, November 6. Tumour removed. (See Table, No. 1.)

Case 2.—J. H., 48. For several years has passed blood in the urine, and occasionally phosphatic deposits, with much frequency of micturition, chronic cystitis, &c.

Exploration: 1881, June 27. Nothing found; tube remained a week for drainage. 1884, June 7. Very decided improvement has continued ever since.

Case 3.—C. J., 52. I performed lateral lithotomy in 1880, with Dr. Jas. W. J. Smith, of Belfast, for a large uric

acid calculus: the wound healed slowly; subsequently passed phosphatic masses with bleeding.

Exploration: 1881, June 17. Found phosphatic deposit adhering to the walls of the bladder, and removed it with my finger; then drained the bladder for a week; some relief followed, but it was not considerable.

Case 4.—T. H., 68. A year ago a calculus removed from the bladder by lithotomy. Soon after recovery he had hæmaturia, continuing some months in spite of treatment. He also experienced great pain, irritation, and extreme weakness, his condition occasioning great anxiety.

Exploration: 1882, Feb. 10. Nothing found except a scale of phosphatic matter, adherent to the bladder, and I removed it with my finger. He soon recovered, and never saw blood again. Was seen with me by Sir W. Jenner. June, 1884. He called on me three months ago, stating that he was enjoying better health and activity than for years past.

Case 5.—T. H., 60. Passes all urine by catheter, many times in the day; much phosphatic deposit and great suffering.

Exploration: 1882, March 20. Nothing whatever found in the bladder. I therefore introduced a tube, which remained there eleven days, thoroughly resting and draining the bladder. The relief was great; he resumed active habits, and he has been better ever since. Drs. Chepmell and Barton Smith present.

Case 6.—Mrs. F., 30. Exploration: 1882, May 9. Tumour removed. (See Table, No. 2.)

Case 7.—A. S., 72. Passes all urine by catheter, with great pain and extreme frequency; very feeble; seen in consultation with Sir W. Jenner.

Exploration: 1882, June 21. I found a small impacted calculus, and removed it with finger; bladder drained through tube; great relief to pain, but died in a few days from ex-

haustion. The operation was undertaken to relieve pain, and not with any view of saving life, as he was obviously near his end.

Case 8.—C. C., 83. Micturition extremely frequent and very painful, but requires the catheter only once daily, very little urine being retained, the instrument withdrawing only one ounce and that is clear.

Exploration: 1882, June 30. Nothing found; tube retained for twelve days, after which the relief was remarkable and permanent. I have recently seen him, and he is absolutely free from symptoms.

Case 9.—B. G., 46. Exploration: 1882, November 3. Tumour removed. (See Table, No. 3.)

Case 10.—M. C., 52. Exploration: 1882, Nov. 20. Tumour removed. (See Table, No. 4.)

Case 11.—F. I., 24. History of severe hæmorrhage and very painful frequent micturition. Sent to me by Dr. Iles, of Fairford, Gloucestershire.

Exploration: 1882, Dec. 15. Dr. George Johnson present. Nothing felt, except that the whole cavity of the bladder is irregular and the lining membrane thickened. Tube retained five days; on removing it, bleeding which had ceased reappeared. The wound does not heal, some urine passing by it, partially prevented by frequent catheterism.

Case 12.—Mrs. H., 23. From New Zealand, with very severe symptoms of three years' standing; said to be due to 'polypus of bladder.'

Exploration: 1882, Dec. 19. Cavity of bladder extremely small, apparently limited by adhesions, which gave way easily under pressure of the finger at some points; a condition I never observed before; no tumour. She soon recovered, lost all pain from that time, but was compelled to pass water almost as frequently as before. Her health was much improved, and she returned in the following month.

Case 13.—E. K., 67. Exploration: 1883, January 17. Tumour removed. (See Table, No. 5.)

Case 14.—W. C., 52. Very frequent and painful micturition, without ascertainable cause, for a year past; rarely holds water more than half an hour. No hæmaturia.

Exploration: 1883, Jan. 22. Dr. Van Syckel, of New York, and others present. No morbid sign discoverable. Tube retained a week. Healed quickly; being one month afterwards absolutely free from symptoms; says he was never better in his life. He returned to the Cape of Good Hope, whence he had come purposely to consult me.

Case 15.—Miss G., 30. Severe symptoms, without ascertainable cause. Long-standing hæmaturia, evidently from bladder. Health very infirm; all treatment hitherto employed has been fruitless.

Exploration: 1883, Jan. 23. Nothing found, but thickening of mucous membrane of bladder, the result of chronic cystitis. No relief except from some of her pain. She slowly sank, and died within a month. Sent to me by Dr. Myrtle, of Harrogate.

Case 16.—T. F., 67. Exploration: 1883, January 30. Tumour removed. (See Table, No. 6.)

Case 17.—W. R., 44. Symptoms severe. Hæmaturia during the last year and a half; no cause ascertainable.

Exploration: 1883, Feb. 2. Dr. George Johnson present. Nothing whatever found; tube retained four days. Wound healed readily, and in the following month he left free from symptoms. Sent to me by Dr. Appleyard, of Bradford. I have recently learned that there is some return of symptoms, although much less considerable than before the operation.

Case 18.—W. W., 63. Exploration: 1883, February 8. Tumour removed. (See Table, No. 7.)

Case 19.—J. M., 64. Exploration: 1883, Feb. 21. Tumour removed. (See Table, No. 8.)

Case 20.—Mrs. R., 65. Exploration: 1883, Feb. 27. Tumour removed. (See Table, No. 9.)

Case 21.—J. S., 53. Exploration: 1883, March 3. Tumour removed. (See Table, No. 10.)

Case 22.—J. F., 27. Very severe symptoms for four years without known cause.

Exploration: 1883, March 12. I found the upper part of bladder coated with thin phosphatic deposit; and detached a quantity which proved to be thin flocculent membrane with adhering phosphates, and was scraped off with my finger nail, when it became free in the bladder, and was removed with the forceps. I at first supposed it to be a slender villous growth. It was examined by Mr. Eve, who described it as above. Tube was retained one day; the wound did not heal; he had orchitis, and suffered much for a long time; ultimately there was some improvement.

Case 23.—R. B., 50. Severely painful and frequent micturition during last two and a half years; passes urine every hour, day and night; occasionally blood, worse for movements. No cause being discovered, exploration was made 1883, March 15, with his medical attendant, Mr. J. Hartley, Malton, Yorkshire. Nothing was found but roughness of the mucous membrane, not considerable in places. No fever, not much bleeding; tube taken out on third day, gradual improvement, left in the middle of April much relieved. June 1884. Continues to be troubled with undue frequency, and a little pain, but much less than formerly. Health good, and habits active.

Case 24.—C. L., 62. In 1880, October. Lithotripsy for small uric acid calculus, single sitting; a brief operation, without any difficulty, but followed by severe cystitis; becoming chronic, and attended with much phosphatic deposit; this condition continued in spite of treatment during 1881 and 1882, phosphatic concretions being occa-

sionally removed by lithotrite. In the beginning of 1883 the symptoms were more severe than ever; urine mucopurulent and bloody, and no cause ascertained.

Exploration: 1883, March 21, with Sir A. Clark. On the right side of the prostate a firm growth, size of a chestnut with broad base, protrudes into the bladder. Decided not to touch it, but drained the bladder for some days. In the middle of April the wound healed, and a little improvement, certainly not much, has been experienced since.

Case 25.—W. D., 65. Exploration: 1883, March 30. Tumour. (See Table, No. 11.)

Case 26.—J. C. D., 43. Pain, frequency and repeated attacks of hæmaturia, more or less during five years; symptoms now severe, without ascertainable cause.

Exploration: 1883, April 4. Dr. Stockton, of New York, present. Found nothing but very notable roughness at the top of the bladder, like phosphatic incrustation, but on attempting to remove it with finger nail, found it was an altered condition of mucous membrane, as if a congeries of varicose vessels with thickened walls; placed a tube in the wound. On the fifth day signs of pyæmia appeared, and he died on the 16th; no autopsy permitted.

Case 27.—C. C. S., 56. Exploration: 1883, May 4. Tumour removed. (See Table, No. 12.)

Case 28.—T. Q., 52. Exploration: 1883, May 9. Tumour removed. (See Table, No. 13.)

Case 29.—A. G. S. C., 57. Exploration: 1883, June 27. Tumour removed. (See Table, No. 14.)

Case 30.—H. B., 23. During last two years, subject to pain, frequency and slight hæmaturia, little influenced by treatment, and associated with other symptoms of an anomalous kind; much care was bestowed on the case, and no explanation of it was discovered.

Exploration: 1883, June 28, with Dr. Walker, of Lowestoft. Nothing whatever found; tube retained eight days. The wound healed, and he left in a month with less frequency of micturition, but with constant pain in the penis, and apparently little benefited by the operation.

Case 31.—R. W. C., 52. Had been cut for a large stone in May 1882 by Dr. Geo. Buchanan, of Glasgow. Wound healed rapidly. After this, great pain and frequency of micturition, not relieved by treatment.

1883, June 23. Passes water every twenty minutes, night and day; worse for movement; phosphatic deposits and blood in the urine; nothing discovered by sounding; empties his bladder perfectly. I thought it not unlikely that some calculus might be impacted or sacculated, and decided to explore.

Exploration: June 29; Dr. Walker, of Lowestoft, present. Nothing found. Retained tube eight days. He had much subsequent treatment for the bladder, and he left in about six weeks, retaining urine about an hour, instead of twenty minutes, a very slight improvement.

Case 32.—J. H. B., 40. Exploration 1883, July 7. Tumour removed. (See Table, No. 15.)

Case 33.—T. S., 42. Exploration 1883, November 16. Tumour removed. (See Table, No. 16.)

Case 34.—H. N., 68; October, 1882. Last four years much difficulty and pain in passing water; of late increasing. Now passes water about every hour, day and night. Catheter passed, forty ounces of retained urine; learned to use the catheter. Seen with Dr. Barker, of Finsbury Park.

1883, November, greatly relieved by catheterism for several months, but soon felt pain when the bladder was empty. Sounded; phosphatic calculus found, and removed at one sitting. Relief at first; subsequently increased pain and frequency; all urine passes by catheter. Decided to

explore the bladder, and did so December 11. Nothing was found, but the bladder very rugose, and the walls thickened by disease; it was drained for ten days, with relief. Wound soon healed, and he left on the 28th, not much benefited. Not long afterwards he died, worn out by suffering.

Case 35.—C. H. C., 25. In 1881, Feb., he first consulted me for attacks of hæmaturia, commencing two years ago after severe exercise. Blood appears chiefly at the end of micturition; always after exercise or standing. Nothing found by sounding: the symptoms strongly indicate tumour, although no débris is found after repeated examinations of the urine.

During 1883 lived chiefly on board his yacht, and then rarely saw blood; but this still appears freely after exertion.

1884, Jan. 23. Exploration of the bladder: Dr. Geo. Johnson and Mr. Bryant present. No tumour found; no organic change detected; retained tube nine days. There was no fever; health excellent; wound healed by February 6. In the middle of the month he began to walk, and did so for two hours a day during the third week, without any bleeding. May, 1884. He is now perfectly well; free from all symptoms.

Case 36.—Mrs. W., 44. 1884, Jan. For a year and a quarter micturition has been very frequent and painful, becoming worse of late. Has had much treatment, but the cause of her symptoms is obscure. Jan. 26, 1884. Explored the bladder, after dilating the urethra, with Dr. John Smith, of Dumfries, who brought the patient up. Found springing from the centre of the trigone a firm prominence, externally consisting of some soft structure, and almost polypoid in form, but on drawing it forwards in the attempt to ligature its base, this outer layer was first scratched through, when a hard calculus about the size of an acorn was disclosed and enucleated; the prominence disappearing.

She had long-continued fever with much exhaustion during almost a month; but gradually recovered, and returned completely relieved from her urinary troubles, and is now quite well; June, 1884.

Case 37.—H. F., 58. He first consulted me in 1879 for recurring hæmaturia, to which he had already been subject three years. I saw him from time to time, and, finding no clue to the cause, explored the bladder, 1884, Jan. 30. Mr. Henry Morris was present. Extremely good examples of villous growth had been found in the urine when examined under microscope.

At the operation no tumour was found, but numerous small papillæ were felt affecting the upper surface and sides of the bladder. These were dealt with by scraping with the finger nail, and by subsequent injections of caustic. He made a good recovery, and, on Feb. 20, the wound was quite healed; he was walking out; no frequency, pain, nor bleeding present. I have just seen him, June 5; he was walking four miles daily without any of his former symptoms.

Case 38.—B., aged 50. Exploration: 1884, Feb. 5. Tumour partially removed. (See Table, No. 17.)

Case 39.—W. G., aged 69. Exploration: 1884, Mar. 12. Tumour found. (See Table, No. 18.)

Case 40.—F. J. O., aged 58. Exploration: 1884, April 4. Tumour found. (See Table, No. 19.)

Case 41.—M. W. B., aged 45. Many years painful symptoms, and treatment for alleged stricture, which does not exist. During last twelve months great frequency of micturition: now, every half-hour, night and day. Instruments have been passed by himself and others up to the neck of the bladder, and then fail to enter. Examination shows that the neck of the bladder is distinctly tense, rigid on the lower aspect, but the short-beaked sound passes over it

readily into the bladder; nevertheless, there is no stricture, for No. 15 (English) will enter.

1884, April 14. Exploration. The finger on entering the bladder encountered rugæ and a roughened surface of mucous membrane, especially at upper part of bladder. The neck of the bladder was exceedingly tight, grasping the end of the finger like a ring; I divided this at the lower border so that the tension ceased. Free bleeding followed. A tube was tied in four or five days. He recovered slowly, and gradually regained power to retain his urine; the intervals being from two to three hours in the middle of May—a condition for which he was extremely grateful. He takes out-door exercise, and is in no degree worse for it.

Case 42.—R. S. R., aged 63. Exploration: 1884, May 30. Tumour found and removed. (See Table, No. 20.)

Case 43.—W. K. E., aged 66. Severe symptoms for some time; prostate very large and irregular. I found a phosphatic calculus, and removed it May 19, 1884, but very little relief followed, in spite of daily injections, and much treatment of various kinds. He requires frequent catheterism, but the intervals are very short, and his suffering increased during the first week in June, and I decided to explore the bladder, and did so on June 12. No fragments of calculus had been left, but I found prostatic outgrowth forming a salient ridge, broad, and overlapping the base and sides of the internal meatus; tied in a tube, and exchanged it for a soft catheter next day. Great relief followed; he retained the tube eleven days, and after its withdrawal held his water two to three hours. June 28: he has not had such rest at night for several months, and the urine, which was highly offensive, and loaded with muco-pus, is now comparatively clear. July 10: he returns to the country almost well—better than I ever expected to see him. Sent to me by Dr. Sawyer, of Birmingham.

CHAPTER III.

TUMOURS OF THE BLADDER, THEIR PHYSICAL CHARACTERS AND INTIMATE STRUCTURE—SYMPTOMS AND SIGNS OF THEIR PRESENCE.

History of operations for vesical tumour in the male—Examples in the metropolitan museums—The author's cases—Intimate structure—Varieties—Symptoms—Physical signs—Examination of the urine.

THE literary history of vesical tumours is scanty; and inasmuch as, with few exceptions, its earlier records treat the familiar outgrowths from the prostate, and the rarer neoplasms which arise from the bladder, without distinguishing between them, not much is available for our purpose.

More than one attempt has been made of late to collect all the cases which may be hunted up among old authors, with the laudable view of collecting information on a subject so lately fraught with new interest, but the result is not successful. The material which has thus been apparently gained as regards quantity by somewhat indiscriminately sweeping the dusty pages of old surgical writers, in the keen search for any semblance of a vesical tumour, is found