

ago, or of influenza ten years ago. It is my very strong belief that boards of health should require notification of pneumonia to them as an infectious disease and that after it the sick-room should be disinfected as thoroughly as in diphtheria. I hope that this Association will feel disposed to vote to advise boards of health in accordance with that belief.

If it should be said that the prevalence of pneumonia follows too closely certain seasons of the year for an infectious disease, a glance at my third chart, from Dr. Abbott's statistics, shows that its cause is not very unlike those of scarlet fever and diphtheria.

As regards the treatment of pneumonia, is not the medical profession in the habit still of relying too much on medicines? That certainly seems to me a fair inference from the last paper and discussion on that subject before this Association, two years ago. I find in the papers, in medical journals and in the reports of discussions in medical societies an increasing tendency, from year to year, to trust to hydrotherapeutics in the treatment of pneumonia and to depend less upon drugs. Personally, I have used cold sponge baths and occasionally applications of ice for the last three years in my hospital wards in every case of pneumonia except those absolutely *in extremis*. As the months of my service are before the time of greatest prevalence of pneumonia, my cases are not yet enough for tabulation and generalization. I am satisfied that life may be often saved by that means, and I am sure that thereby delirium is quieted, pain is relieved, cough is eased and sleep is produced without the necessity of resorting to drugs. That the tonic effect of cold sponge baths is fully as great in pneumonia as in typhoid fever is fully borne out by my experience, and I have never seen any ill effects from them. The greatest number of baths that I have used in a single case has been twenty-five, and every patient without exception has expressed a feeling of comfort from them and of liking them, unlike my typhoid fever patients, a large proportion of whom object to their cold sponge baths.

FIVE CASES OF RUPTURE OF THE URETHRA TREATED BY EXTERNAL URETHROTOMY AND SUTURE.

BY A. T. CABOT, A.M., M.D.,
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THE intractable nature of traumatic stricture of the urethra is so well known that no apology is required for a report of some cases in which an attempt was made, by immediate suture of the ruptured urethra, to furnish accurate coaptation of the divided ends of the canal and by promoting rapid and smooth healing of the mucous membrane, to avoid the formation of a stricture.

French surgeons have interested themselves much in this class of injuries. According to Salviat,¹ their practice up to 1858 was to treat these cases by simple perineal incision. From that time till 1875 it became more and more the practice to search for the posterior part of the urethra by an early perineal section with the object of introducing and fastening in a catheter (*sonde à demeure*).

Some difference of opinion still existed, however,

among the best men during the decade commencing in 1880 as to whether it was well to introduce the catheter at once or whether it was better to simply establish perineal drainage by the early operation, and some days later, after the swelling had gone down, to search for the posterior urethra and place the *sonde à demeure* in position.

The attempt to temporize led to the frequent resort to aspiration of the bladder for the purpose of relieving its tension until the urethra was able to resume its functions or until the formation of a perineal abscess or a urinary infiltration compelled a resort to more radical measures.

During this decade the tendency towards an immediate suture of the urethra began to show itself, and the very thorough and convincing experimental work of Dr. Kaufmann, of Zurich, showing that an immediate suture greatly lessened the extent of the cicatrix in the urethral wall, gave an impetus to a further trial of this method, even in the face of considerable opposition from some good authorities. Since that time a number of cases have been reported in which the immediate suture of the canal has been followed by the best results in the way of quick and safe healing.

The effect of urine leakage in favoring the formation of indurated, contracting fibrous tissue, and the part it consequently plays in stricture of the urethra, has been pointed out by Mr. Reginald Harrison and constantly urged by Dr. J. P. Bryson of St. Louis. A ruptured urethra offers the best possible conditions for the formation of tough fibrous tissue under the constant irritation of the urine.

No one who has cut down upon a ruptured urethra and found the partially or completely separated ends of the canal lying in a ragged cavity filled with a blood-clot; and then, after the application of stitches, has seen the integrity of the urethra restored so that a catheter passes smoothly by the point of union into the bladder without a hitch, can doubt that by the operation the amount of cicatricial tissue will be greatly lessened and the chance of a troublesome stricture by so much reduced.

If the urine can be kept from coming in contact with this closely joined wound for a few days, it will give time for such adhesion as to practically seal the tissues against subsequent urine leakage. When this can be successfully accomplished, it seems rational to hope that the cicatrix will be a thin and supple one and will not lead to troublesome stricture formation.

Hitherto, the formation of a stricture has been regarded as the inevitable consequence of a urethral rupture; and while in the fortunate cases of moderate severity, the regular passage of a sound may keep the urethra permeable, a neglect of this precaution may be expected to result in a rapid closure of the stricture. In other cases of greater severity the stricture shows a constant tendency to contract in spite of every effort to keep it open, and repeated operations are required to avert the serious consequences of a complete closure.

In the cases of sutured urethra that I have found reported up to this time, the patients have been kept under observation for too short a time to enable us to get any idea as to the final result in a matter of stricture formation.

That I might contribute as far as possible towards supplying information on this point, I have followed

¹ Thèse, Paris, 1882, 1883.

my cases by every possible clue, and have succeeded in finding and examining three of them at periods from four and a half to two and a half years after the operation. I shall be greatly obliged for information as to either of the others that may have come under the observation of other practitioners.

CASE I. J. C., aged eighteen, fell astride of a barrel twenty-six hours before entrance to the hospital, August 28, 1891. Urination was impossible, and an attempt to pass a catheter had failed.

Under ether a perineal section was immediately done. The bulbous portion of the urethra was so crushed as to be divided across two-thirds of its extent, so that only a narrow strip of the roof of the canal remained intact. This rent in the urethra was closed by four catgut stitches so taken as to include the muscular and cavernous tissue surrounding the urethra but not encroaching upon the mucous membrane. When these were tied the canal was so restored that a catheter slipped in with perfect ease. It was fastened in place and the outer part of the wound was left open so that in case of any leakage the urine should not be shut up within the tissues. Recovery was uneventful. The catheter was removed upon the tenth day and the patient left the hospital well at the end of twenty days.

For two years this patient had intermittent treatment with sounds and bougies, in accordance with advice given him at the hospital. A No. 27 French bougie was the largest size passed in this time.

He was seen and examined on March 10, 1896, when he told me that he had not had an instrument passed for three years. The urine was clear and passed in a good stream. Sounds Nos. 26 and 28, French, passed without resistance and caused no bleeding.

CASE II. P., aged twenty-three, entered the Massachusetts General Hospital, October 17, 1891. Twenty-four hours before entrance he had fallen astride a pail which caused a sharp hemorrhage from the urethra. He was unable to pass water, and his physician could not enter a catheter.

Operation was done immediately upon entrance. While being etherized there was a sharp hemorrhage from the urethra, which was restrained by pressure in the perineum. The perineum was occupied by a large clot of blood. Upon cutting into this and turning it out, the two ends of the urethra, completely separated, were found in the cavity. The ends of the canal were joined by six catgut stitches, and upon tying these the hemorrhage, which had been persistent and troublesome, was entirely stopped. A catheter slipped in easily and was left in place.

The patient proved unruly, and on several occasions removed the catheter. Presently a small abscess formed in the perineum which required opening. After this all went well; and he was discharged November 11th, thirty-one days after operation.

CASE III. J. J. G., aged thirty-one, entered the hospital July 2, 1892. He had fallen astride a joist forty-three hours before entrance. This was followed by hemorrhage from the urethra and the formation of a large hematoma in the perineum, and the patient was unable to pass water nor could a catheter be introduced.

At the time of entrance the bladder reached to the umbilicus. The distention of the bladder was relieved by aspiration, and as soon as arrangements

could be made operation was done. Upon cutting into the perineum by the median line, a blood-clot about the size of an orange was found and turned out. In this case there was complete separation of the urethra and there was some difficulty in finding the proximal end, but when it was found the two portions of the urethra were easily united by catgut stitches and a catheter put in place. The patient made a good recovery, and went home twenty-three days after the operation.

CASE IV. J. D. P., aged twenty-one, entered the hospital June 29, 1893. In jumping off a bicycle he had struck the perineum on the rear wheel with so much force as to break the wheel. This caused ecchymosis in the perineum, hemorrhage from the urethra and inability to pass water. A large silver catheter was passed by his attendant under ether, and the bladder washed with boracic acid.

The following day swelling and pain in the perineum had increased, and he had a chill. He was operated upon by an incision in the median line, and the clotted blood lying about the urethra was turned out. The rupture was found extending transversely across the bulb, completely separating the two parts. The ends of the urethra were united by catgut stitches; and these at once stopped the hemorrhage, which had been troublesome. The patient for a few days was pretty sick, with a tendency to a suppression of urine; but after this was over, he rapidly recovered. The catheter was out on the eleventh day, and he went home with the wound wholly healed on the nineteenth day.

In answer to a letter, this patient reported in February, 1893. He had never had any trouble in urination and the water was perfectly clear. On examination by sounds the large sizes were arrested at the seat of the rupture. After a No. 22 French sound had been passed through the stricture, it easily yielded up to a No. 25, French. One week later a No. 26, French, was readily passed without any exercise of force, and later, still larger sizes were used.

CASE V. C. F. M., aged twenty-two, entered the hospital October 21, 1893. He had fallen astride a chair five days previous to entrance, since which time he had been constantly troubled with hemorrhage from the urethra, especially at the time of urination, with a tendency to swelling in the perineum.

A perineal section was done. Clots lying about the urethra were turned out, and it was found that the lower part of the urethra was torn across, the roof of the canal being the only part intact. The ends were joined by catgut stitches, and a catheter was introduced and left in place. The catheter was removed on the tenth day, and the wound was entirely closed on the twentieth day.

The patient returned for a time to the out-patient department for the passage of sounds. One month after his discharge from the hospital an instrument of No. 30 French calibre passed easily. This patient was seen again February 11, 1896. At this time a No. 30 French sound passed with ease through the whole canal, although he had had nothing passed since 1893.

In all of these cases the immediate result was good. In three of them the opportunity was given for an examination some years after any dilating instruments had been used. In Cases I and V no stricture was found, and instruments as large or larger than any

used after the operation slipped past the point of rupture with perfect ease.

In Case IV, while no interference with urination was noticed, a narrowing of the urethra was found. This narrow point was, however, not a hard cicatricial stricture, but was so soft and yielding that without the least exercise of force it was rapidly dilated to a good size.

These results would certainly encourage a continuation of attempt to promote immediate union of the urethra when divided by violence.

The operation is not a difficult one. A median incision opens the blood cavity about the urethra. After the clots have been turned out, a sound passed down the urethra quickly shows us the anterior end. If the urethra is not fully divided across, the rent is then easily seen and rapidly repaired. When the division has been complete, the posterior end may not be so easily found, but in a fresh rupture the profuse bleeding which occurs from the bulb of the urethra, instead of obscuring our search, serves as a guide to that which we are seeking. If then, the bleeding point in the posterior part of the wound is seized with forceps and pulled forward, the collapsed and retracted end of the urethra will be brought to view. In a case of longer standing, when the bleeding has stopped the search may be more difficult, in which event firm pressure should be made above the pubes to force the escape of urine to serve as a guide.

In all of these cases the suture was made with interrupted catgut stitches, which were all placed before any of them were tied. Care was taken to include only the cavernous and muscular tissue in the stitches and not to encroach on the mucous membrane. In every case, upon tying the stitches, the hemorrhage immediately stopped.

CONCLUSIONS.

(1) In cases of ruptured urethra, immediate perineal section with suture of the urethra should be practised.

(2) By this procedure not only do we greatly lessen the danger of urinary infiltration and abscess, but we also, in a large proportion of cases, may hope to prevent the formation of close intractable strictures.

(3) In an early operation the search for the posterior end of the urethra is much easier than it is later. The hemorrhage from the branches of the artery of the bulb serves as a guide to that end of the canal.

Clinical Department.

CARCINOMA OF RIGHT KIDNEY.

BY F. W. JOHNSON, M.D.

KATE W., white, fifty-five years of age, married, entered the Carney Hospital, November, 1895. Her father died of old age. Her mother died of "a tumor in the side." Dr. Malcolm Storer saw her in the out-patient department and made a diagnosis of tumor, probably of the right kidney. From her appearance, and from the history of the case he considered the growth malignant.

For some eighteen months previous to entering the hospital she had had sharp pains in the right side, and frequently had passed bloody urine. For over a year

she had noticed a lump in the right side which, she thought, had steadily been increasing in size. Often the pain extended down the right thigh. Night-sweats, nausea and vomiting had been present.

The pain in the side was constant, requiring morphine for its relief. She was much emaciated, the skin was of a yellowish, muddy color, and the conjunctivæ were yellow.

The urine was pale, acid, and contained a large trace of albumin. The quantity in twenty-four hours was fifteen ounces. The sediment contained a considerable number of blood and pus corpuscles, single and in clumps. Renal cells with oil drops adherent, and hyaline and finely granular casts were present.

On palpation a freely movable, non-sensitive tumor, which caused a marked bulging of the anterior abdominal wall, could be felt in the right side over the region of the kidney. It was so movable, both without and with ether, that a tumor, with a long pedicle, starting from the pelvis was thought of, and not excluded until after the abdomen had been opened.

November 9th an incision, parallel to the median line and six inches in length, was made over the tumor. The part first reached was sub-peritoneal, but it was soon found that the disease had passed through the posterior parietal peritoneum and had involved the intestine, mesentery and omentum. The mass brought to view was about the size of a child's head.

Further examination showed the mass to be connected with the right kidney. This was freed from its adhesions, and the renal artery, vein and ureter were tied separately and divided.

On delivering the growth it was found to have involved the colon, which was firmly attached to it. The attachments were divided and the tumor removed. A piece of the omentum as large as half of my hand was infiltrated with the growth and was removed.

The intestine about the tumor appeared everywhere infiltrated with carcinoma for a distance of from five to six inches. For a distance of eight inches along the intestine the mesentery was divided and a V-shaped piece as large as my hand was removed. Eight inches of the intestine, going well beyond where the disease was visible, were resected, an end-to-end anastomosis being done. The cut edges of the mesentery were brought together with an over-and-over suture of fine silk, and were attached to the under surface of the intestine at the point of anastomosis. The intestine at the place of operation was carefully wrapped in the omentum and then tucked in on all sides with Peake & Buzzell's iodoform gauze.

On the day following the operation little urine was passed, and there was considerable nausea and vomiting.

On the second day the amount of urine increased, with a corresponding improvement in the patient's condition.

On the fourth day part, and on the sixth day, the remainder, of the gauze was removed. No fecal fistula occurred, and union took place by first intention except where the gauze was placed.

On the fifth day the bowels were moved by calomel.

On December 8th the patient was discharged. She had been free from all pain for some ten days, had gained in weight, and was passing from 30 to 40 ounces of urine in twenty-four hours.

In answer to a letter, sent by my assistant at the