went so far as to say that this substance never failed to cut short the most obstinate gonorrhœa. Be on your guard, Gentlemen, whenever you hear any particular remedy or mode of treatment praised in this pompous manner.

I tried the deuto-nitrate of mercury on several patients; in some cases I injected five or six drops in a glassful of a mucilaginous fluid, but without any benefit. I then increased the quantity in other cases, and the discharge, instead of stopping, was much increased; I, therefore, abandoned the remedy as useless.

The nitrate of silver, as you know, is a substance which has been of late very extensively employed. In ulceration of the cornea, erysipelas, cutaneous affections, and a great variety of other diseases, it has been used with more or less success. Its action on venereal chancre and syphilitic ulcers of the throat is well known. Opinions, however, are divided on the utility of this substance, as an injection, in gonorrhœa. I have made numerous experiments with the lunar caustic in various quantities; in the proportion of one grain to the ounce of water, I have obtained excellent results, especially in old cases. In four cases I tried two grains to the ounce, and two of the patients were cured in five days. In cases of long standing, then, the nitrate of silver injection is efficacious. In recent cases it may also be employed; but its efficacy is greatly increased by pressure applied methodically to the canal of the urethra. For the latter purpose I employ small compresses, which I apply as exactly as possible along the course of the urethra, from the bulb to the fossa navicularis, and which I support with a small bandage. Before tightening the bandage I inject a solution of one or two grains of nitrate of silver to the ounce of water, and keep the injection in the canal for one or two minutes; this I repeat two or three times in succession, and twice a day. The pressure must be permanent to have any effect; you will be forced, therefore, to renew the bandage frequently, and on this account, perhaps, it might be useful to impregnate it with starch, as we do in the treatment of fracture. I repeat the injections for three days, and then suspend them; if necessary they may be resumed. In this way I have cured five or six patients labouring under gonorrhœa, in whom every other species of treatment had been tried without success.

I must, however, warn you of certain accidents that may occur during this mode of treatment. Thus the glans penis and prepuce may become swollen, livid, or even inflamed; but you need not be alarmed at this, unless you have pushed compression too far. Should the patient be tormented with frequent erections, and suffer much, you must employ baths, lavements, &c., with narcotics, but do not suspend the use of compression unless you are compelled so to do. To the treatment of gonorrhœa with astringent injections, several objections have been made; amongst these there are two which I cannot pass over in silence. First, it has been affirmed that the injection may pass into the bladder, and there excite violent inflammation. This I believe is a mere chimera; and even if inflammation were to arise, we could soon master it by appropriate means. Second, the injections, it is said, often give rise to stricture. This also

I do not believe. Stricture is generally the effect of induration of the tissues, cause by long continued inflammation; and we cannot admit that any treatment which cuts short the inflammation can tend to produce its effects. Besides, experience proves that stricture does not follow the use of astringent injections.

In conclusion, Gentlemen, I would say that astringent injections are the best remedies we can employ in the treatment of gonorrhœa, especially if the disease be of some standing, and that the nitrate of silver, with compression, is the one which we should select.

ON
STRICTURE OF THE URETHRA,
AND
HYPERTROPHY OF THE BLADDER.

By M. CRUVEILHIER.

Stricture of the urethra is the most common cause of retention of urine, and of a majority of the diseases to which the urinary organs are subject.

In my opinion, modern writers have gratuitously multiplied the number of organic changes which occur in strictures of the urethra. For my part, I have never met with more than one species of stricture—viz., the fibrous, or, to speak more correctly, the fibrous degeneration of the walls of the urethra, occupying either a single point of the canal all round, and thus forming the ring-stricture, or extending along the canal to a length of four, six, eight, twelve lines, or more.

Besides, this distinction of strictures, according to their extent, we may admit superficial strictures, which are confined to the mucous membrane, and deep-seated strictures, in which the whole thickness of the urethra is changed into fibrous tissue. With respect to seat, the stricture may occupy any point between the orifice of the urethra and the prostatic portion, but it is almost always confined to the membranous or bulbous portions of the canal. I have never seen a stricture in the prostatic portion of the urethra. The following description of the appearances of different strictures is taken from dissections which were made with the utmost care:—

Stricture—False Passage through the Corpus Cavernosum—Gangrene—Death.

On opening the urethra, a false passage was observed; the instrument had traversed the upper wall of the canal, passed through the corpus cavernosum, and again entered the urethra. The stricture was four or five lines long; it was dense, fibrous, and the change of structure occupied the whole thickness of the canal; some pus was infiltrated throughout the corpus cavernosum, and the cellular tissue of the perineum was the seat of a gangrenous abscess; a portion of the lung was in a state of grey hepatisation.

Perhaps in this case the inflammation of the lung depended on the existence of pus in the corpus cavernosum. In analogous cases I have found numerous abscesses in the liver and spleen. Pus in the corpus cavernosum is placed under the same circumstances as if it were in the veins, and unless it is

immediately circumscribed by adhesive inflammation, may pass into the circulation, and produce all the effects of purulent infection.

*Incontinence of Urine from Diseased Prostate—
Hypertrophy of the Bladder.*

An old man, 71 years of age, was admitted into Bicetre, on the 20th of October, 1834, with retention of urine; the latter had been preceded by habitual incontinence, but the patient could give no information on the origin of his disease. A catheter was easily passed into the bladder, and allowed to remain there for fifteen days. It was then withdrawn, because the urine escaped between the instrument and the urethra; the incontinence returned.

The man now fell into a dangerous state; he was sounded every morning, and a small quantity of purulent and excessively fetid urine was drawn off; and although introduced with the greatest care, the end of the catheter was always tinged with blood, and of a very black colour when withdrawn. On the 10th of November an urinary abscess formed in front of the scrotum, and the man died on the 14th.

Post-mortem.—The bladder contained a small quantity of purulent urine, and a mulberry calculus as large as a walnut. The walls of the bladder were considerably hypertrophied; this condition, however, was confined to the muscular tissue, and the fatty layer between the latter and the peritoneum. The whole of the inner surface of the bladder was lined with an irregular false membrane. The prostate completely embraced the urethra; around the lower half it was very imperfectly developed, but at the upper was extremely thick and solid. The substance of the kidneys was healthy, but the cavities of their pelvis were livid, and lined with pus; the vesiculæ seminales, also, were distended with pus, and at the lower part of the urethra, in front of the scrotum, there was a large opening.

REMARKS.

From the hypertrophy of the bladder in this case, together with its size, I am inclined to think that the incontinence of urine under which the patient laboured so long was a retention with regurgitation. The hypertrophy of the subperitoneal fatty layer would lead to the idea that the bladder remained for a great length of time inactive, and merely allowed the urine to escape as it received it. The coincidence of urinary calculus with disease of the prostate has been frequently observed, and should not be overlooked in the treatment of the latter. We should also remember that the existence of the stone may be overlooked in cases of this kind, from the difficulty of exploring the floor of the bladder; still we can make the proper examination by employing the sounds proposed by MM. Leroy or Mercier for this purpose.

The lobular arrangement of the lower portion of the prostate explains the retention of urine, and also the incontinence, when the lobes which projected into the neck of the bladder were separated from each other, as the organ became distended; they also explain why it was easy to introduce a catheter, which passed along the grooves between the prostatic lobes. The lower half of the prostate, then, was in this case made up of a number of distinct lobes, which projected separately into the bladder. As to the thick

portion of prostate which embraced the upper part of the urethra, this has been occasionally seen.

In this and several other cases, I have been able to ascertain that the prostate is contained between two layers of muscle sent off from the bladder; one external and very thick; the other internal, thin, and placed between the mucous membrane and tissue of the prostate; and finally, that the prostate is traversed by a number of muscular fibres sent to it from the bladder. The thickness of the external prostatic layer, and the thinness of the internal one, explain why, in cases of hypertrophy of the prostate, its lobes always project into the bladder, and never externally to it.

The destruction of the walls of the urethra, in this case, and the infiltration of urine which ensued, were occasioned by the permanently keeping a catheter in the bladder. It is worthy of mention that I have never yet seen partial or complete hypertrophy of the prostate coincide with stricture of the urethra; nay, more, stricture of the membranous portion of the canal is almost always attended by more or less complete atrophy of the prostate gland, which often depends on chronic inflammation of the part. The two following facts support this idea:—

Fibrous Stricture of the Urethra—Atrophy of the Prostate.

I found, in a dead body, a stricture of the urethra occupying the bulbous and adjoining membranous part of the canal; it was fibrous, and was from eight to nine lines in length. At the centre of the stricture the fibrous degeneration comprised the mucous membrane and the spongy tissue of the urethra; but towards the extremities it was confined to the mucous membrane alone. The stricture, with the neighbouring portions of the urethra, thus resembled two cones applied to each other. The urethra, between the stricture and bladder, was remarkably dilated; the verumontanum was much developed, and connected to the neck of the bladder by several bands. On pressing the prostatic portion of the urethra a small quantity of purulent matter escaped through the orifices in the verumontanum and its neighbourhood. The prostate gland, which appeared to be large, was converted into an abscess, divided into two parts by an imperfect septum; the abscess was traversed by numerous filaments, probably the vessels and excretory ducts. The bladder was small and greatly hypertrophied; it was from four to five lines in thickness, and divided, by muscular bands, into pouches, but did not contain any calculi.

Prostate converted into a Cyst containing a Calculus.

A patient was admitted into hospital for a retention of urine, which he said had existed for several years. It was impossible to pass a catheter. The bladder could not be felt above the pubis, and the operation of puncture was delayed. The patient soon died.

Post-mortem.—Bladder very thick; gangrene extending through the mucous and muscular coats, at the posterior part; a white calculus projected into the urethra, immediately in front of the neck of the bladder; the stone occupied the site of the prostate gland, which had been converted into a mere cyst. In the membranous portion of the canal there was a dense, circular stricture; the ureters were dilated and flexuous; the pelvis and calices of the kidneys were

also much distended, but the substance of the kidneys was atrophied. The body of the right testicle contained several tubercles, and the epididymis was infiltrated with tubercular matter.

Here the various diseases of the genito-urinary system were probably consequent on the stricture of the urethra. Had the finger been passed into the rectum, the tumour would have been mistaken for an enlarged prostate; had it been known to be a calculus, nothing would have been more easy than to extract it through the rectum.

Circular Stricture—Enormous Distension of the Bladder.

M. Berard presented to the Anatomical Society a bladder enormously distended, and reaching up to the umbilicus; there was a ring stricture, at about three inches from the external orifice of the urethra. The bottom of the bladder presented a number of small granulations, like millet seeds; these are nothing but mucous follicles, which are invisible in a healthy condition of the organ.

Complete Obliteration of the Urethra—Gangrene of the Bladder.

M. Bosc presented to the Anatomical Society the urinary organs of a man in whom the urethra was completely obliterated in front of the scrotum; there were several urinary fistulae, and the bladder was perforated in three different parts, but the loss of substance was closed by the intestines. An eschar was found in the bladder, exactly similar to the part of the bladder from which it had been detached. Several members of the society thought that it was merely a false membrane, but I am convinced that it was a true eschar.

Stricture—Fistula—Calculi.

M. Thomas presented to the Anatomical Society the urinary organs of a man who had laboured under retention of urine for the last twenty years, and who passed his urine pretty freely by introducing a large bougie as far as the middle of the urethra. The man had no children, and having heard that this probably depended on his stricture, he resolved on going into hospital. It was impossible to pass a common sound into the bladder; a conical one was, therefore, introduced, and it was thought that it passed into the bladder, but nothing but blood came away. The man was seized next day with œdema of the glottis, and died on the following day.

The anterior half of the urethra was healthy; from its middle point there passed two canals; one, which seemed to lead to the bladder, was gangrenous, and contained one large and several small calculi; the other was surrounded by dense, fibrous tissue, and led to a large cavity in the prostate gland, filled with calculi. The prostatic pouch communicated with the bladder, and was divided into two compartments by an imperfect septum.

REMARKS.

The *fibrous* nature of stricture of the urethra seems to me to be clearly demonstrated, for I repeat that I have never seen any other form of the disease. At the strictured point the mucous membrane of the urethra completely disappears, and the spongy tissue more or less so. If we endeavour to discover the

cause of this fibrous degeneration, we shall perceive that it may be explained, first, by chronic inflammation of the mucous membrane; second, by ulceration. We possess, however, too limited a number of facts relative to the state of the urethra in gonorrhœa to determine the question; for my part, I am inclined to think that strictures are the result of ulceration; for, if we admit inflammation as the cause, it is difficult to conceive how its effects should be limited to a single point of the urethra.

The therapeutic inductions derived from a knowledge of the fibrous nature of stricture are perfectly in accordance with facts. The inconveniences of forced catheterism, and of conical sounds, the superiority of dilatation over cauterisation, the necessity of continuing dilatation for a considerable length of time, the tendency of stricture, of return, and the absolute necessity of having recourse, from time to time, to some means of dilatation—these are the therapeutical inductions furnished by the pathological anatomy of stricture.

It is as difficult a matter to re-establish a natural canal, when changed into fibrous tissue, as it is to make an artificial canal. Morbid fibrous tissue has a tendency to become thick and dense under the least irritation.—*Annales de Chir. Franc.*, February, 1842.

PERFORATION OF A BRONCHIAL TUBE.—
SUDDEN DEATH.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—Should you think the following case of sufficient interest for publication in your Journal, I shall feel obliged by your inserting it.

Your obedient servant,

ALLEN J. TAYLOR,

House Surgeon.

Newcastle Infirmary,
April 4, 1842.

James Allen, aged 40, ostler, admitted on the evening of February 29, 1842. He required to be supported by two assistants; is a strong-built man, of a corpulent appearance. Little of the history of his illness can be gained from himself or attendants, except that he has been out of health for four months, complaining of some cough and dyspnœa, but able to follow his usual employment; he has had no medical advice. A few days ago he was observed to be much altered in his appearance for the worse; great prostration of strength, urgent dyspnœa, troublesome cough, and severe pain of the side. These symptoms have continued increasing, and he now presents a pallid, anxious countenance bedewed with copious, clammy perspiration; eyes vacant; intelligence impaired; respiration hurried and laborious, attended with loud mucous rattling; pulse very feeble and rapid; voice low and hoarse; complains of acute pain in lower part of left side, much increased on coughing; wandering pains about chest; and frequent troublesome cough. Being anxious to get him to bed with as little delay as possible, a hasty examination only of the chest was made with his clothes on; percussion was not used; no respiration audible in left chest; respiration attended in right side of chest with loud mucous