in the urine; also that he had been confined to his bed with abscesses (caused by extravasation of urine behind Stricture) for nearly two years.*

The recovery was complete, re-examination 3 years later demonstrated the radical cure of the Strictures.

An occasional annoyance associated with the operation, and most liable to occur in patients of hypersensitive organization, especially subjects of prostatorrhœa or sexual irritability is from painful erections, coming on chiefly at night, and similar to those of acute gonorrhœa.

INCURVATION OF THE PENIS during erection is an occasional sequel, being caused by an inflammatory thickening along the superior surface of the urethra at the point of operation, where more or less discomfort may be experienced, as during erection this part becomes tense and salient.

In 4 cases out of 136 this condition persisted for several weeks, in one for about four months, finally disappearing without special treatment. In one case, after the incurvation had lasted a year, I succeeded in relieving the tension by operative measures. Taking advantage of the knowledge gained by M. Reybard in his experiments on dogs (*i. e.* that transverse sections of the urethral tissues resulted in Stricture, while longitudinal incisions were not open to that objection) I devised an instrument, or, rather, I modified my first dilating urethrotome (page 35) so that while distending and fixing the urethral tissues firmly, I might divide them in a *diagonal* line across the superior aspect of the canal. The accompanying cut will give an idea of the modified instrument. With this, I succeded in dividing the cord completely, giving immediate and perfect relief in

AUTHOR'S DILATING URETHROTOME FOR DIAGONAL DIVISION.

* In this case, after complete suppression for 24 hours, resisting treatment by cups over the loins, hot air baths, hot fomentation, etc., the secretion was apparently restored by the administration of 20 grains of calomel, in accordance with a suggestion in regard to such cases from Prof. Willard Parker.

one case (when the incurvation was so great as to prevent connection), and immediate though only partial relief to the other, which, however, was finally restored through absorption following the operation. It may be interesting to note here that the *diagonal incision* was not followed by Stricture.

In the four cases, where the incurvation persisted, the operation causing it, was done during the existence of high inflammatory action; in one case the acute stage of a gonorrhœa had been prolonged by the presence of Stricture, for more than four months. In two cases deeply seated Strictures had necessitated unusually deep incisions into the urethral and underlying tissues. Usually this result of inflammation gradually passes off after a few days, as in an ordinary gonorrhœal chordee. Occasionally, however, the plastic exudation thrown out becomes more firmly organized; several weeks may occur before the deposit is completely removed. In such cases it is common for the gleet to persist until the erections no longer occasion discomfort. The external application of a ten per cent solution of the oleate of mercury has seemed to hasten the disappearance of the plastic deposit. I have met with certain rare cases where the tendency to formation of inodular tissue, at points of injury, was excessive, resulting in overgrowth which, when occurring at the site of a urethral Stricture, has produced more or less permanent deformity where no operation (except dilating with bougies) has been performed.

SPONGIO-CORPORITIS.—In four cases I have seen a slight swelling and soreness at the point of operation apparently due to inflammatory swelling of the *corpus spongiosum* in the immediate vicinity of the wound. This I have ventured to call a *spongio-corporitis;* and while I have always felt some anxiety lest a localized abscess might result, the complication has passed off entirely within a few days, under the ordinary treatment used after all operations. Stilling, a German author of celebrity, in speaking of cases of urethrotomy by the old methods has observed something similar, and attributes it to the action of urine or pus or to a localized infiltration of

urine in the tissues of the corpus spongiosum. Stilling's experience has evidently coincided with mine in regard to its temporary character. In his great work on Stricture of the Urethra (Cassel, 1870), page 1013, chapter on Rational Treatment, he says "infiltration of urine after urethrotomy can only occur if the flow of urine is prevented by coagulated blood or other causes. It is therefore of the greatest importance to remove any obstacle which might prevent the free escape of urine. This can easily be done, and if infiltration of urine should occur after internal urethrotomy, it is the surgeon's fault and not a necessary consequence of the operation. The same may be said of pus. The introduction of a catheter into the urethra prevents all these consequences, urine and pus escaping between it and the urethra."

If infiltration of urine has ever followed any operation by dilating urethrotomy with my instrument, it has only been of the limited degree producing a temporary and localized *spongio-corporitis* such as that just described. Bearing in mind however the very positive statements of Stilling as to the security against such accidents by keeping the urethra patent after operation, I have been in the habit of introducing a full sized sound daily for the first three or four days, and on the occurrence of any swelling, in addition to this to draw off the urine with a soft catheter, and wash out the urethra with a weak solution of carbolic acid until the swelling and tenderness have subsided. My own opinion in regard to the localized swelling is that it is caused by irritation of the parts in immediate locality of the incision by contact with acrid urine, and has been so rare, of so little discomfort and apparently of so little importance that I have not noticed it in the tabulation of cases.

CHAPTER XV.

STRICTURES OF LARGE CALIBRE.

IN this place I desire to call attention to the pernicious effects of Strictures but slightly invading the urethral lumen, and for the purpose shall relate a single typical case which is fresh in my experience.

Mr. A. D., aged sixty-four, came under my care complaining of a slight urethral discharge and a sense of irritation at the neck of the bladder. He had had no recent venereal contact, but had experienced several gonorrhœal attacks in early life. Examination showed a penis $3\frac{3}{4}$ inches in circumference, and a meatus urinarius of a capacity of 32 mm. Examination with the urethra-metre demonstrated a normal urethral calibre of 36 mm., and detected three narrow bands of Strictures at between two and three and a half inches from the meatus, each of the value of 6 mm. I advised immediate division of these comparatively insignificant Strictures, explaining and asserting my belief that the urethral discharge and the irritation referred to the neck of the bladder were a legitimate result of the holding and detention of gouty urine or its débris behind these barriers. Mr. D. declined any operative procedure with considerable warmth, and a palliative treatment (alkaline and diluent) addressed tc his gouty diathesis was adopted. Improvement in the quality of the urine, which soon took place, caused a temporary relief from the irritation, and the discharge, which had never been profuse, gradually disappeared. The irritation returned, however, at the least indiscretion, and I was consulted about it every few weeks until February 2d, 1877, when he again presented, not only with return of the discharge and irritation at the neck