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CIRCUMCISION

A Cause of Reflex Irritation of the Genito-Urinary Organs.

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More than ten years ago my attention was attracted to the frequency with which I was consulted, by persons of the Jewish faith, on account of chronic urethral discharges, irritable urethrae, and other affections of the genito-urinary organs. As the cases, in the persons mentioned, were always troublesome and difficult of cure, I turned my investigation toward the cause which was, apparently, at work in their production, and soon became convinced that the main factor was a preternaturally small meatus urinarius externus.

This condition of the urethra I at once detected to be almost universal in every individual of this special sect who fell under my observation; and, seeking the reason of the same, I became convinced that the narrowing of the urethral orifice was not congenital nor peculiar to the race, but was clearly the result of the early removal, *by circumcision*, of the prepuce.

The glans penis in the child, being covered by muco-cutaneous tissue, remains in this condition just so long as the same is protected by its natural covering, the prepuce. If, however, the prepuce is cut away at an early age, eight days or even longer, the glans becomes exposed to the rough contact of the child's napkin and other articles of clothing, and the consequence is it soon changes its muco-cutaneous condition, and becomes converted into almost true dermoid tissue; this being the condition in which we find the glans penis of every Jewish youth, as may be easily verified by examination.

Now, since nature has wisely protected the various outlets of the body by the intervention of a muco-cutaneous surface between the mucous canal and the true skin, we find these orifices remain in a normal and healthy state just so long as the muco-cutaneous tissue is preserved in its integrity. If, however, at any time, or from any cause, the line of blending between the muco-cutaneous and the mucous tissue becomes altered or changed, there is lighted up an irritation which soon runs into an inflammation, followed by a deposit of retractile tissue around the orifice, which in time produces a permanent contraction.

We see this to be the case in those contractions of the lachrymal puncta, after long-continued inflammation of the tarsal edge of the eyelids; in the mouth after

burns or ulceration of the lips; in the anus after ulceration around its verge, and, more noticeably true, in a contracted meatus which follows a balanitis associated with a long-standing blennorrhagia.

Just this condition of affairs is taking place in the urethral orifice of every child whose prepuce has been removed. The glans penis, uncovered and exposed to the air and rough articles of apparel, becomes irritated, then inflamed, and in time, losing its soft succulent condition, it hardens into a tissue almost like the palm of the hand; the union of the muco-cutaneous with the mucous membrane becomes abrupt, elasticity is lost, and the consequence is, a rude line of demarcation is formed, with its consequent deposit of retractile tissue, and a contracted meatus is the result.

Soon after having satisfied myself of the correctness of the opinion which I had formed in my own mind, I called the attention of my friends, Professor F. N. Otis, of New York, and Mr. W. F. Teevan, of London, to the fact, and requested them to investigate the subject, knowing that an enlarged clinical experience gave them ample facilities for so doing. Since then I have had increased opportunity, through a rather extensive Jewish clientage, to further investigate and establish the fact. But as yet I have not made any publication of the result of my labors, although I have accumulated a mass of interesting material, which at some future time I hope to be prepared to lay before the profession. An allusion to the subject has, however, been made in a paper entitled, "Infantile Circumcision a Cause of Contraction of the External Urethral Meatus," written and published in the editorial department of the *Annals of Anatomy and Surgery* by Dr. William M. Mastin.*

This is the only reference to the subject of which I have any information as having appeared in print.

The object of this paper is not to enter into a long detail or discussion of the anatomico-pathological points involved in this interesting subject, nor to tire the reader with a physiological disquisition upon reflex irritation of the genito-urinary organs; but rather is it to place upon record the clinical history of a few cases (selected at random from a large number) which will serve to illustrate the effects of circumcision, and show some of the singular and curious phenomena which take place in the nervous system when peripheral nerves are encroached upon by a deposit of retractile and cicatricial tissue.

Such phenomena have long been familiar to the profession, and nothing especially new is to be found in the fact of reflex irritation from certain conditions of the genital organs. The morning sickness of pregnancy is a familiar illustration of such irritation resulting from a gravid uterus. John Hunter, in his classical work on venereal diseases, as long ago as 1788, cited a number of interesting examples of such reflex actions, and in 1803 Everard Home reported a case of sciatica being produced by stricture of the urethra, and relieved by the cure of the stricture.† Sir Benjamin Brodie illustrated the subject with his case of a gentleman who suffered great pain in the foot and ankle, caused by an old stricture, and which was almost instantly relieved by the introduction of a

* See *Annals of Anatomy and Surgery*, page 123, vol. iv. Brooklyn, 1881.

† "Home on Stricture," page 271, vol. ii. London, 1803.

sound through the obstruction.* Civiale, in his work on the urinary organs, makes frequent allusion to the subject; and within the past few years so much has appeared in our journals and the transactions of various societies that it would almost prove a work of supererogation on my part to call attention to such publications.

Dr. Marshall Hall has so clearly demonstrated that the irritation of peripheral nerves produce centric disturbances in the spinal cord through the excitomotor system, and are thence transmitted back, that it would now be a difficult task to find a medical scientist who would for a moment question the truth of the proposition.

Speaking of the various causes of muscular contraction, he says: "There is another function, the phenomena of which are of a totally different order, and obey totally different laws, being excited by causes in a situation which is *eccentric* in the nervous system; that is, distant from the nervous centres." Again, "but in the first place, this function is by no means confined to the limbs; for, whilst it imparts to each muscle its appropriate tone, and to each system of muscles its appropriate equilibrium or balance, it performs the still more important office of presiding *over the orifices and terminations of each of the internal canals in the animal economy*,† giving them their due form and action. . . . This property is characterized by being excited in its action, and reflex in its course; in every instance in which it is exerted, an impression made upon the extremities of certain nerves is conveyed to the medulla oblongata or medulla spinalis, and is reflected along other nerves to parts adjacent to, or remote from, that which has received the impression, . . . the stimulus acting mediately and indirectly in a curved and reflex course along superficial sub-cutaneous or sub-mucous nerves proceeding to the medulla, and muscular nerves proceeding from the medulla." ‡

Case 1.—A. M., aged 12 years, a Jewish lad, well grown, and apparently in fine health, although listless and dull, was brought to my office by his father on the 9th of November, 1883. The history given was that he had no power of retaining his urine, and that his clothes were constantly saturated with the same. For the past three or four years he had been in "the habit of wetting the bed at night:" a habit against which all remedies had proved of no avail, and in spite of punishment and other means of prevention he had gone on from bad to worse until the present time. At first he was in the habit of "wetting the bed" only during the time he was asleep; but soon after it was found out that he did so as soon as he got into bed, and before he went to sleep. For this he was punished, but without breaking him of "the habit." If he had his clothing changed, it was soon saturated again, until at last he was left undisturbed. He was sent to school, and got along about as children of his age generally do, with the exception of frequently requesting the teacher to permit him to go out to pass his urine. This occurring so frequently, the teacher began to suspect the youth was malingering, and refused to grant his oft-repeated requests. The result was, he was unable to retain the urine, and he passed the same in his trousers. From

* Benj. Brodie's "Lectures on Certain Nervous Affections," p. 38. London, 1837.

† The italics are my own.

‡ "Memoirs on the Nervous System," pages 3, 4, 5, 6 *et seq.* Marshall Hall London, 1837.

this on, the trouble grew worse and worse, until finally he was unable to retain his urine either by day or by night; and, as a consequence, he was constantly saturated with the same—a constant stillicidium going on all the while, until he was brought to me for relief from this loathsome condition, the result of a so-called “paralysis of the bladder.”

Knowing the history of this class of cases, and having before me a Jewish youth whom I was certain had been subjected to the requirements of the Levitical law, I felt certain that I should find a contracted meatus, and that most probably the whole trouble was reflex in its character, and depending entirely upon a strictured condition of the urethral orifice. An examination disclosed a flaccid penis which measured two inches in circumference, with an approximate calibre of its canal of 20 millimetres. The prepuce had, at eight days of age, been cut closely away, leaving a gland entirely uncovered, which was now, from constant friction and exposure, covered by a dense, tough membrane, close up to the edge of a minute meatus, now contracted to a calibre of 9 millimetres—a closure of 11 millimetres from its normal state or condition.

Having had under my charge, about eighteen months previously, a young boy of Christian parentage, some six years of age, who was brought to me from a neighboring State, with a like history, and who upon examination proved to be suffering from the effects of a vesical calculus, and from whom I cut four small uric acid calculi, with complete relief of his enuresis, I thought it best to be careful in hazarding a diagnosis, lest I should find a stone instead of a reflex nervous trouble. Hence, I proposed to enlarge the meatus sufficiently to enable me to search with a sound for any concretion which might possibly be within the bladder. This I did, and slit up the mouth to the normal size of the urethral calibre, viz., 20 m. A careful examination with the sound showed no stone present, either in the urethra or the bladder; but instead thereof I found a highly-irritable urethra and an exquisitely sensitive vesical neck. The treatment consisted entirely in the daily introduction of a smooth steel sound of 20 m. capacity, tepid hip baths, a solution of citrate of potass, largely diluted, to correct the acid condition of his urine, with two-grain doses of quinine and ten drops of the tinct. of chloride of iron three times each day, to brace up his general health.

The night after the operation he slept in a dry bed, and within the course of the next day his stillicidium had entirely ceased, so that he went on to a rapid and perfect recovery, and was discharged on the 26th of the same month, just seventeen days from the time he was placed under treatment. The case speaks for itself, and requires no special pleading to establish its diagnosis or justify the means resorted to for its relief. It was a simple reflex irritation of the genito-urinary tract, cured by the debridement of the contracted urethral orifice, the cause of the enuresis.

The next case to which I shall call attention is one of peculiar interest; and, as it occurred in the practice of Dr. W. M. Mastin, and under my own observation, I shall furnish the report of the case as it has been placed at my disposal.

Case 2.—S. W. N., an Israelite of German extraction, aet. 24, medium stature, nervous temperament, and by occupation a book-keeper, consulted me, Sep-

tember 9th, 1883, for professional advice relative to a deficiency of sexual tone and power, from which he had been suffering for several years past, and which, too, was beginning to have a decided effect upon his physical and moral health.

A careful inquiry into his history, especially in relation to his present disorder, elicited the following: General health has always been robust until within a period of a few months, since which time he has been subject to excessive "nervousness," consisting of cardiac disturbances, vague apprehensions, tremors, etc. These phenomena have been accompanied by moderate loss of flesh and vivacity of disposition, with a want of interest in the ordinary affairs of life. He has never suffered from any venereal disease whatever, and his family history is devoid of hereditary taint or vice.

At about twelve years of age he began the practice of masturbation, which he continued irregularly until his fourteenth year, when, learning its pernicious effects, he relinquished the habit entirely. A year or so later he first indulged in sexual connection, and, as far as he remembers, the act was satisfactorily accomplished, and reindulgence followed at long intervals for another year. At this time he found that his sexual ability was noticeably diminishing, and has gradually but slowly continued to decline to the present date. Indeed, excluding the period mentioned, he does not remember to have accomplished the act properly since his seventeenth year. His symptoms now are found to consist in incomplete or semi-erection, thus rendering intromission difficult and often impossible, the penis becoming flaccid, and emission taking place immediately, and without pleasure, at the moment of entrance. He never could repeat the act, although frequently attempting to do so. Again, he has, as he expresses it, "no control over his sexual passions;" that is, lascivious thoughts, especially if in the society of females, will take uncontrollable possession of him, with intense desire, and followed by instantaneous seminal discharge, without erection. Nocturnal emissions are frequent.

An examination of the parts showed the penis to be of normal size and appearance, without foreskin—circumcised—testicles large and firm; meatus contracted, barely permitting the introduction of a steel sound of 11 millimetres, and encircled by a dense organized deposit of retractile tissue, but no evidences of trouble deeper within the urethra. The penis measures $3\frac{1}{2}$ in. in circumference. He had often taken "tonics and nerve stimulants" by the advice of other physicians, and, though persevered in for a considerable time, no appreciable benefit had resulted from their use. He was now, however, ordered strychnia and hypophosphoric acid in full doses, associated with cold douches, friction to spine, absolute continence, and avoidance of all excitement of society.

September 20, 1883.—His condition remaining unchanged, and, believing the contracted meatus presented a factor of importance in his condition, free debridement of the orifice was advised, and accordingly practiced. Dividing it to the urethral calibre of 33 m., I found the deeper portion of the canal perfectly normal. The after-treatment consisted in introducing steel sounds of 33 m. on alternate days, until the incised meatus was perfectly healed, and at the same time continued the strychnia and phosphoric preparation, cold affusions, etc.

At the expiration of six or eight weeks he declared himself to be, in his own

opinion, in perfect vigor ; and, according to his desire, he was discharged February 1, 1884, with the advice to abstain rigidly from sexual indulgence at least for a month. About this date he sustained a severe contusion of the left testis, which confined him to his room and bed until the last of the month of March, thus enforcing the continence advised.

In April, 1884, he called at my office to report, and stated that he had recently accomplished the act of coitus entirely to his satisfaction, and that he had repeated the indulgence several times within a very short period. He stated, furthermore, that he possessed perfect control of his thoughts, and that erection under proper excitement was full and continued ; nocturnal emissions had ceased, and he had not had an involuntary seminal discharge since the operation. His weight had very materially increased when, on the 1st of December, 1884, he called to report his condition and cure, which is permanent in every particular.

Case 3.—B. C., a young Jewish man, aet. 26 years, presented on 19th of July, 1884, with the following history : He was of fine general appearance, and no evidence of hereditary taint, never having had any serious attack of illness or injury. With the exception of a case of melancholia in the person of a sister, his entire family were in fine health.

Six years ago he contracted a blennorrhagia, and was treated with stimulating injections and the usual balsamic preparations. The active inflammatory stage passed off in the course of ten days or two weeks, leaving him with a thin gleet discharge, and "morning drop," which has persisted until the present time. His stream of urine showed no appreciable diminution in size, nor was he especially annoyed beyond the stain always present on his linen.

In the meantime, he had not contracted any new infection, although he had not been in any way overcareful in the indulgence of his venereal appetites. About twelve months prior to the time of his calling at my office he had been greatly troubled with difficult and painful micturition, and this, too, without any recent exposure or reason to think it was the result of a new infection. His urine was now passed with difficulty, and, as he expressed it, "burnt him like hot lead." There was no discharge, and nothing simulating a urethritis ; no red and pouting lips, no inflammation of glans or urethra. The case had been pronounced "gleet" by his former medical adviser, and "a course of bougies" resorted to, but without any apparent or real benefit. For the past three months his stream of urine had gradually lessened in size, until it was with difficulty that he could void it at all, and he had been unable to procure rest either by day or by night, disturbed, as he was, by frequent and urgent calls to micturate. His stream of urine was not larger than a small-sized filiform bougie, and as a consequence his bladder was emptied only after long and violent straining.

All in all, he presented a deplorable condition of nervous irritability, anxious and despondent. A young man of wealth, with fine business prospects, and everything required to make life desirable, he had gathered around himself the luxuries and comforts of home, preparatory to uniting himself with an accomplished young lady in matrimony. Being engaged, and finding himself unfitted

for the duties of the Hymeneal state—ardently attached to the object of his affections, and seeing all his hopes about to be blighted—he was on the borderland of madness. His emotional faculties were all aroused, and that peculiar morbid susceptibility, that sensitiveness of those who are “all feeling,” had crept over him and induced a restless apprehension of some impending evil, a sort of suicidal mania, “which rejoiceth exceedingly, and is glad when it can find the grave.” All the ambitious projects of his life had vanished; the bright anticipations of a cheerful home, radiant with the smiles of her whom he had selected to be the partner of his joys and his sorrows, had found a revulsion in that spectral melancholy which seemed to blight his life, and—

“He heard a voice we do not hear, which said he must not stay;
He saw a hand we do not see, which beckoned him away.”

Everything seemed to unsettle and unfix his purposes. At one time he was full of hope, only to plunge again into the abyss of despondency, almost ready and willing to take any step to get away from himself. Such was his condition when he presented himself to me for advice and treatment.

And what did my examination reveal as the hidden cause of this terrible condition of the past four months? Simply a contracted meatus-urinarius, with its sequelæ, an irritable urethra and spasm of the bladder; a reflex nervous irritation, a want of unity of the nervous force, the result of a dense cicatricial tissue at the external urethral orifice.

An examination of the genitals showed a normal and usual condition of the penis and testicles, the former in its flaccid condition measuring in circumference 100 millimetres, equal to about four inches; this would give a urethra of 40 m., whilst I found the meatus contracted down to 20 m., showing a diminution of at least 20 m. in size. With a ball probe I encountered at one and one-half inches down the canal a distinct contraction which gradually narrowed until, for a distance of two inches down the canal, an 18 m. ball would barely pass, showing a distinct contraction two inches in length, with a calibre of 18 m., being in round numbers 22 millimetres less than the normal calibre of the urethra. When, however, the closed urethrametre was passed to the bulb and expanded to 40 m., it could be drawn along the canal, but not easily; this was more easily done when it was lowered to 38 m., and then it came out with perfect ease until it reached the vesical face of the contraction at three and one-half inches from the meatus; thus showing a contracted canal of three and one-half inches in length, which had gradually narrowed from 20 m. at the meatus to 18 m. at the vesical face. He was complaining of deep fixed pain in his perinæum, with dull pain over pubis, and a dragging sensation about the loins; frequent calls to urinate, which he did in small quantity, and with great pain at the time, comparing it to “hot lead.” There was no inflammation, no redness, and no soreness about the glans, which, with the exception of its rough and hardened texture, and pinhole-looking meatus, was normal in appearance. His urine had been carefully tested, and revealed no bladder or kidney complication.

My diagnosis was accordingly made, and was to the effect that he was

suffering from an irritable urethra and bladder, caused by a contracted meatus with a dense deposit of cicatricial tissue, which was impinging upon peripheral nerves and causing reflex phenomena; and hence, I advised debridement of the meatus to its normal size, dilatation of the stricture, and in this manner relieve the case.

I must freely confess I was not altogether prepared for the result which followed, for when I examined the urethra I thought the stricture was soft, and would require a month or more before it could be dilated to the normal calibre of the canal. Upon opening the meatus, which was very dense and firm, I was astonished to find that all the spasm of the urethra had vanished, and that I had no difficulty whatever in introducing a 38 m. sound fully into the bladder. It is true there was some little soreness upon the passage of the sound, but no actual pain, nor was there the least force required in its introduction.

The night after the little operation he rested quietly, was not disturbed to evacuate his bladder, and from this on he made a speedy recovery. The after-treatment consisted alone in the daily use of the sound, with two grains of quinine and ten drops of the tinct. of the chloride of iron three times each day.

Within the course of a month he was entirely well, and not a vestige of the trouble remained which a month before had almost driven him to the verge of madness. He left Mobile soon thereafter for his home in the interior of the State, and a few weeks later I was the recipient of an invitation to attend his marriage ceremony, accompanied by a letter of thanks for the great service which he had received at my hands, and the assurance of his perfect restoration to health.

Such is a brief recital of an interesting case of reflex irritation from a contracted meatus, and one which clearly points out the obscure cause of some of these cases of urethral and bladder irritation, with the ready means at our disposal by which they may be relieved.

In illustration of my subject, I have selected three typical cases, each manifesting a different phenomenon, yet all springing from one and the same root. In one instance we find *relaxation*, with its attendant enuresis; in another, a loss of the virile power, and unhinging of the nervous system; whilst in the third we see a *spasmodic* condition of a segment of the urethral canal, a perturbation of the nervous force, with its reaction upon the mental and moral condition of the patient. We have traced out and established the undoubted cause which has been at work, and the result of the treatment proves the correctness of the diagnosis. Other cases of equal interest could be presented, but the length of this paper precludes their mention at this time.

