denly left him, and he was soon sleeping, forgetful of his troubles. Upon examining the urine passed, the small serrated calculus No. 3 was discovered.

As a rule, there is no difficulty in accurately diagnosing these cases. The only affection, in my opinion, which could possibly be taken for this complaint is a severe attack of colic. This error may be avoided by noticing the sympathetic irritation which is set up in the testicle of the affected side, the appearance occasionally of blood in the urine, and the frequent attempts at micturition.

The best treatment is that of opium in grain-doses every hour until there is a mitigation of the symptoms, with a plentiful supply of potash-water in a state of effervescence. Hot baths will also be found very useful.

ON THE TREATMENT OF VASCULAR GROWTHS OF THE URETHRA WITHOUT OPERATION.*

By ARTHUR W. EDIS, M.D.,

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CONSIDERING the frequency and amount of suffering and inconvenience caused by vascular growths of the urethra, it seems strange that so little attention has been given to the subject in many of the recent works on diseases of women. One of our best treatises does not even mention them; another, although it recognises them as an "exceedingly important affection", dismisses them with a single page. Scanzoni accords them but little more. Dr. Barnes enters fully into their consideration; but, as far as I have been able to ascertain, nearly all authors are agreed in stating that their removal by operation, if not the only thing to be resorted to, is at least the only thing that can be relied upon for effecting a cure.

Now, it is familiar to all who study gynecology how much patients dread anything of the nature of an operation; and, even when it is resolved upon, it necessitates the administration of chloroform and other preliminary arrangements; and when, as frequently happens, patients present themselves in the consulting-room who come up from a distance, the mere fact of announcing the necessity of an operation is equivalent to frightening them into "rather bearing the ills they have" than submitting to operative interference.

The application of the permanganate of mercury is attended by much pain and inconvenience, and cannot always be resorted to. Nitrate of silver, in my experience, is not sufficiently potent; it produces too much irritation, and does not sufficiently destroy the vascular growth—in many cases seeming to increase rather than diminish it. The actual cautery cannot well be applied unless the patient be at home; and the various other agents, such as potassa fusa, nitric acid, etc., are too painful to be of general application.

To obviate this difficulty, I was induced to try the effects of *chromic acid*, and was surprised to find how little inconvenience it occasioned, and at the same time how efficacious it was in destroying the growth. I have in numerous instances applied a saturated solution, and with the most marked benefit. My usual plan is to roll a little cotton-wool round the end of a small piece of wood (an ordinary match will do); to soak it for a quarter of an inch in the acid solution; and then to carefully yet firmly press it upon the vascular growth until the surface becomes distinctly shrivelled; the surrounding parts being guarded by cotton-wool soaked in solution of carbonate of soda, which is also applied to the growth subsequently, to neutralise any excess of the acid. Slight burning pain is produced, but seldom sufficient to need any employment of morphia, either hypodermically or as a local application.

The sensitiveness of the tumour is almost completely destroyed, some soreness being all that is complained of. In about a week's time, a second application should be made; and, depending upon the size of the growth, two or more subsequent applications, at a week's interval, will generally be sufficient to complete the cure, which, as far as I have been able to observe hitherto, is permanent. *Carbolic acid* in the solid form, or as a saturated solution, also serves to mummify these growths, and causes far less inconvenience than many of the numerous agents recommended. My experience with this is not yet sufficiently great to enable me to speak more positively, but I believe it will be found to be a very useful addition to our list of remedies in these cases. I append a few cases where the chromic acid had been employed.

CASE I. J. C., aged 37, married sixteen years, without children, was first seen on October 16th, 1873. She complained of smarting pain on micturition, was obliged to get up several times in the night to pass urine, experienced much pain on walking or exertion, had a slight dis-

charge, occasionally tinged with blood, and suffered much inconvenience *in coitu*. On examination, a vascular growth was discovered bulging from the urethra; it was sessile, being attached to about two-thirds of the circumference of the passage; it was exquisitely sensitive, and bled readily when touched. A saturated solution of chromic acid was carefully, but thoroughly, applied, the pencil being pressed firmly on the surface. Some slight inconvenience was caused at the time, but this passed off after a few hours. A mixture of bicarbonate of potash and tincture of belladonna was prescribed, together with a soothing lotion.

On October 23rd, she reported that the pain on micturition was less; the urethra being still vascular, the chromic acid was reapplied. Bromide of potassium was given in place of the other mixture.

On November 6th, the chromic acid was again resorted to, and caused little or no inconvenience.

On November 20th, the urethra being still somewhat vascular, a strong solution of carbolic acid was applied, after which no further local means were resorted to.

CASE II. A. H., aged 63, married forty years, without children, on admission, September 18th, 1873, complained of scalding pain on micturition, which had been present two years. She had a constant discharge, and the linen was often stained with blood; she lost a good deal a week since; she thought she had "a gathering in the womb". On examination, a vascular growth was detected at the orifice of the urethra, very sensitive. Chromic acid was applied; very little inconvenience was caused by it, and, when seen on October 3rd, she stated that she had been better ever since her first visit. The growth was much smaller. The acid was again applied.

On October 16th, she had no pain at all on micturition, and felt better in every respect. The urethra was still somewhat vascular, but as there were no symptoms, nothing further was done; and, up to January 1874, she had had no relapse.

CASE III. E. R., aged 47, married sixteen years, the mother of three children, was admitted July 3rd, 1873, complaining of pains in the womb and lower part of the back, pain in micturition and also difficulty, and leucorrhœa. The uterus was found to be normal, but the urethra was very vascular and sensitive. There was no distinct growth projecting, but a general injected condition for about two-thirds of the circumference of the urethra. Chromic acid was applied, and again on the 17th, when she stated that the pain on micturition was very much less than it had been before she came.

On the 31st, she had very slight inconvenience on micturition, and, as the vascularity had greatly diminished, no further application was made.

When seen in September, she had no pain whatever on passing urine. She was suffering from a threatened miscarriage.

On October 2nd, the urethra was found to be perfectly normal. She is now nearly six months advanced in pregnancy.

CASE IV. A. J., aged 63, widow, mother of eight children, on admission on April 24th, 1873, complained of smarting pain on passing urine and difficulty in doing so, bearing down pains, and discharge. She has had "pressure and cutting pain with the water for the last five or six months, disturbing her very much at night". The urethra was found to be very vascular, the mucous membrane much hypertrophied. A zinc point was inserted on two occasions, and left in the urethra for some minutes. This caused some pain at the time, but afforded relief afterwards. However, as the vascularity still continued, on June 12th, the permanganate of mercury was applied.

On July 12th, the burning and smarting pain in micturition still continuing, chromic acid was applied, and produced much less inconvenience than the permanganate had done.

On July 24th, she stated that she had experienced little or no pain after the former application, and had been much better since. The urethra was much less vascular, but not quite healthy. The acid was reapplied, since when she has had no further symptoms.

CASE V. M. S., aged 66, widow, when admitted in October 1872, complained of "pain in her privates", desire to micturate every ten minutes, the act being accompanied by much smarting pain. There was a discharge purulent in character, and other symptoms referable to the uterus. On examination, a large vascular tumour, sessile on the posterior wall of the urethra, was discovered; it bled readily when touched, and was very sensitive.

An operation being deemed requisite, no local application was made. Belladonna with an alkali was prescribed internally, and chloral and morphia at night. No bed being obtainable, the permanganate of mercury was applied on two occasions, at a week's interval.

On November 15th, chromic acid was resorted to in place of the permanganate, as the pain from the latter lasted several hours after its employment. It was repeated at the end of a fortnight, again on December 12th, and on January 9th, 1873, and February 11th. After this, the growth disappeared entirely, and required no further application, though

* Read before the Obstetrical Society.

the frequency of micturition was still more than natural during the night. She was seen in May 1873, and was very much improved, there being very little irritation now.

Possibly this may be nothing new to some present; but as it seems to be a very effectual mode of dealing with these troublesome little growths, I thought it not unworthy of the attention of the Society, as I am convinced it is not generally known, and it deserves a more extended trial.

The cases I have selected are only a few of those in which I have employed it; in many instances, the patients have attended some few times and then ceased to do so; it is, therefore, fair to conclude that they were relieved from their sufferings, otherwise they would have again presented themselves.

CASE OF TRAUMATIC TETANUS SUCCESSFULLY TREATED BY CALABAR BEAN.

By JOHN CUNNINGHAM, M.B., Campbelltown.

As the uses of the Calabar bean in the treatment of tetanus are at present engaging the attention of some of the members of our profession, I may be pardoned for giving the following notes of an interesting case which lately occurred in my practice.

Alexander C., aged 7, was on a visit to his grandfather, when he met with an accident on July 31st last. When I went to see him, I found a lacerated wound of the left foot. The tissues covering the great toe and first and second metatarsal bones were bruised, as was also the union between these bones, almost as far as their tarsal articulations. I cleaned the wound, and dressed it with a weak watery solution of carbolic acid. The injury proceeded, without an adverse symptom, towards recovery, until August 11th, when his friends told me that he had caught a cold in being carried from one room to the other. The patient complained that his throat was sore. There was nothing abnormal to be found about the throat; and I ordered that it should be kept warm, and that the patient must not be removed from his bedroom.

August 11th, 8 P.M. The patient could not open his mouth sufficiently wide. The muscles on the back of the neck were stiffer than normal. The patient was fretful and peevish, and refused food. As I had no confidence in the ability of those attending to carry out my instructions, I telegraphed for the little boy's mother to come with all speed. I left a mixture of bromide of potassium and hydrate of chloral. On the patient refusing it, the friends said "there is no use in tormenting him".

August 12th. I saw the patient in the forenoon and evening. He was very much worse; he took neither food nor medicine.

August 13th, 11 A.M. The patient's mother had come, and was determined that my directions would be strictly carried out. I left a bottle containing a grain of fresh extract of Calabar bean to an ounce of water, and a small graduated measure. I ordered twenty drops (*i.e.*, 1-24th of a grain) to be given every hour and a-half, unless symptoms of faintness should supervene, also sherry wine, milk, and chicken soup frequently.

August 13th, 8 P.M. He was much worse. The jaws were completely closed. The whole body was rigid. Clonic spasms occurred every fifteen or twenty minutes, and were almost immediately preceded by severe pain at the sternum. After every such attack, there were profuse perspiration and rapid pulse. The patient always cried to be lifted when he felt the clonic spasms coming. He lay in his mother's arms in a state of opisthotonos until the spasm relaxed. I ordered twenty-five drops of the medicine to be taken every hour.

August 14th, forenoon. The patient was slightly worse. He had taken wine, milk and soup abundantly. In the evening, he was slightly worse. Thirty drops were given every hour.

August 15th, forenoon. The symptoms were gradually becoming worse. I ordered thirty drops to be taken every hour. In the evening there was slight improvement. The clonic spasms did not occur every three or four minutes as this forenoon. A little sleep had been got, during which "he looked", the mother said, "as if nothing ailed him".

August 16th. There was slight relaxation of the masseters in the forenoon. In the afternoon there was no improvement. I ordered thirty-five drops every hour.

August 17th. There was no improvement. Forty drops of the mixture were given every hour.

August 18th. The clonic spasms of the body were not so severe; the tendons of the ham-strings were like bands of iron (the forearms and fingers had remained free throughout). He had had a short but refreshing sleep during the day.

August 19th. Improvement was not marked. Fifty drops were given every hour. In the evening, as he had had no motion from the bowels for two days, a simple turpentine enema was given. The bowels had

been perfectly regular previously, and I attributed the necessity for the enema to the use of brandy instead of sherry wine for the past few days, owing to the patient's desire.

August 20th. From this date the improvement was rapid and permanent. Day by day the relaxation increased, the spasms became fewer and less violent, the pulse lower, and the perspiration less. The dose was reduced by degrees (the effect of the reduction being noticed) to fifty drops every hour and a half on August 23rd, the same dose every two hours on the next day, and so on. The symptoms gradually diminished in severity, until I considered the patient so far recovered as to permit his removal home on September 2nd. At that date, he could stand with a little assistance. I have since heard that he is quite well.

It would be illogical to deduce that a cure resulted in this case from the medicine employed; but so many cases have been successfully treated within these few years by means of the Calabar bean, that I think it should be preferred in the treatment of this dangerous malady to any of those empirical remedies formerly recommended. If the Calabar bean exercised any beneficial influence in this case, I think that it was by means of constantly increasing doses as long as the symptoms shewed no abatement in severity. Large quantities of warmed milk, wine, and soups were, I have no doubt, powerful adjuvants.

I may mention, as adverse to the theory of the entozoic origin of all cases of tetanus, that the stools were carefully watched for worms, but none were found, and that not a single symptom of their presence was present before the accident occurred or during the convalescence.

ACUTE TETANUS ENDING IN COMPLETE RECOVERY.

By CHARLES D. ALLEN, M.B., Glenarm.

ON June 11th, 1872, I was called to see a boy, aged 11, who had met with an accident in a flax-scutching mill, his left hand having been caught between two cogged-wheels, which crushed and lacerated to a great extent the fingers and palmar surface of the hand. I found it necessary at once to amputate the second, third and fourth fingers, the former at the first phalangeal, and the latter two at the metacarpophalangeal articulation. On visiting the boy each day, I found all going on most satisfactorily.

On the seventeenth day after the operation, the wound was nearly healed. On the eighteenth evening (June 29th), the child's father came in haste to say his son was very ill, had rested badly the previous night, refused his food, and all that day had been unwilling to leave his bed, although hitherto he had been going about enjoying perfect health and strength; indeed, he was a peculiarly robust lad. He now complained of severe pain and stiffness along the back and side of the neck, and experienced slight difficulty in opening and shutting his mouth; and before I left the house that evening, his jaws were firmly clenched upon a piece of wood inserted by myself to guard against the complete closure of the teeth. The patient apparently had caught no cold, nor was he exposed in any way that could account for these symptoms—they appear to have been the result directly of the injury. The wound at this time was healthy looking, and had almost completely cicatrised. These tetanic warnings came on late on the evening of June 29th, and the following morning, at ten o'clock, he was violently affected with general tetanus; the trismus was excessive, and opisthotonos very marked. The pulse now was 120; temperature, 100.2 deg.; respirations, 30. The face had the tetanic grin, and the abdominal and flexor muscles of the lower extremities were most violently affected under spasm. The treatment noted below was at once commenced, and with apparent utility. There was no intermission of the tonic contractions, and every ten or fifteen minutes these were increased by fits of painful spasmodic action of entire frame, the face assuming a terrific aspect and the jaws almost breaking the wedge of wood. The most trivial noise or movement in the room brought about a renewal of the worst symptoms, the approach of them being indicated by the boy crying out in fear. The body during the severest moments rested on the back of the head, the elbows, and the heels. I made it to be understood that he must be lifted out of bed and brought to the door for air. On these occasions, the dyspnoea was great, and the lividity of countenance showed that the struggle for breath was intense. Night and day this was the routine. I could not persuade the boy to remain in bed.

On July 2nd, the symptoms became aggravated. The pulse rose to 140; temperature, 103.2 deg.; respirations, 40. Abundant perspiration broke out over the entire body, and the urine passed two or three times involuntarily. On July 3rd, the pulse came down to 134; temperature, 102 deg.; respirations, 34.

For some days, things remained in much the same fearful condition,