

week later I found his head was distinctly retracted, and when I tried to put it forward he cried. Between two and three weeks later this had disappeared and I made a note to the effect that the child was free from movements of any kind. At the end of July he contracted measles and he had a slight return of the side-to-side movements of the head, but no nystagmus. When I saw him again at the end of September, he was quite free from movements, and he had had no attacks of momentary unconsciousness and no convulsions. I examined the child again at the beginning of December, and found that he had remained quite well. The treatment consisted in the administration of bromide of potassium (three grains) twice daily, with the subsequent addition of one grain of iodide of potassium. He occasionally suffered from intestinal derangement, for which ordinary simple remedies were used. I saw the child last in October, 1889, that is a year and nine months after his first visit. There had been no return of the movements of the head and eyes, and there was no history of fits or petit mal. He was very quiet and subdued, but quite intelligent.

(To be continued.)

ON THE USE OF ANTISEPTICS IN THE TREATMENT OF STRICTURE OF THE URETHRA BY INTERNAL URETHROTOMY.

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ONE of the chief objections against the treatment of stricture of the urethra by internal urethrotomy is the fact that the operation as ordinarily performed is so frequently followed by the development of urinary or urethral fever. The characteristic symptoms of this affection, which usually appear a few hours after the performance of the operation, often shortly after the first act of micturition, are attacks of rigors accompanied by elevation of temperature. Though sometimes met with in perfectly healthy persons after any operation on the urinary tract, even after the mere passage of an instrument, it is most likely to show itself when the urine is alkaline and in a foul or toxic condition, especially if the patients are also the subjects of secondary renal disease. Urinary fever is believed by some to be neurotic in its origin, and it doubtless is so in some instances; but when it appears after operations for the relief of stricture, it may probably be regarded as a form of septicæmia, due to absorption through the wound in the urethral wall of some septic or toxic elements present in the urine. By a proper selection of cases and by the employment of antiseptics administered internally and also applied locally, the development of urinary fever after the performance of internal urethrotomy can be prevented, if not always, at any rate in the majority of cases.¹

It is with the same object—viz., the prevention of toxic urine coming into contact with the urethral wound after internal urethrotomy—that Mr. R. Harrison combines with it an external urethrotomy. A drainage-tube is introduced into the bladder through the perineal wound, and the result is that the internal urethrotomy wound heals without any urine passing over it. Mr. Harrison states² that in twenty cases in which he has adopted this plan he has “never had a rigor, nor the development of that special form of urinary fever which frequently follows internal urethrotomy, and is occasionally fatal without forecast or explanation.” During the past twelve months I have performed internal urethrotomy in seven cases of severe stricture, where the treatment by dilatation had proved unsuccessful. In the first case, which was treated in the ordinary way, no special antiseptic precautions being adopted beyond taking care that the instruments used were perfectly aseptic, the operation was followed by an attack of rigors, the temperature rising to 102.6°. In none of the succeeding six cases, where anti-

septics were employed in the manner described below, were there any rigors or general fever, the temperature never rising above 100°.

The following is the general plan of treatment which was carried out:—Internal urethrotomy having been decided upon, the patient is confined to bed and kept upon a milk diet for a few days previously to operation, the urethra being meanwhile left at rest, and free from the irritation caused by the passage of instruments. To relieve any tendency to congestion of the urethral mucous membrane and parts about the neck of the bladder, the bowels are kept freely open by small doses of sulphate of magnesia. A mixture containing boracic acid in ten-grain doses is also given three times daily; for in the majority of cases of stricture where operative interference is required chronic cystitis is also present to a greater or less extent, the urine containing more or less pus, and, if not alkaline, being either neutral or only faintly acid in reaction. Under a course of boracic acid given internally, it will generally be found that the urine, at any rate in the less severe cases, soon regains its normal acidity; at the same time a portion of the boracic acid being eliminated by the kidneys, and passing away in the urine, the antiseptic action of the drug is exerted directly on the mucous lining of the bladder. Thus the cystitis is relieved, the pus diminishes in amount or entirely disappears, and the decomposition of the urine in the interior of the bladder is also prevented. The result is that the urine, if toxic, is sterilised or rendered aseptic, and its contact with the surface of the urethral wound after operation is consequently innocuous.

Operation.—The instrument I always employ for division of the stricture is Teevan's urethrotome, which is carefully carbolicised. The patient having been anaesthetised, about a drachm of carbolic oil (1 in 16) is injected into the urethra. A ferret is passed through the stricture, and the urethrotome having been screwed on to this and made to follow it, the roof of the urethra at the point of constriction is divided from before backwards in the usual way. The instrument is then withdrawn together with the ferret, and the stricture is afterwards dilated by passing Lister's sounds, 9–12 to 12–15. A full-sized silver catheter is then introduced into the bladder, and the urine having been drawn off, the viscus is thoroughly washed out several times by injecting a saturated solution of warm boracic acid. About two ounces of the solution are left in the bladder, and as the catheter is withdrawn the urethra is also flushed out with the lotion. An iodoform bougie is then passed down the canal as far as the neck of the bladder, so that it may lie in contact with the urethral wall at the seat of division of the stricture. During the operation especial care is taken to protect the patient from exposure to cold, and in addition to the ordinary precautions the lower extremities are wrapped up to the hips in thick woollen bandages.

After-treatment.—As soon as the patient recovers from the anaesthetic, ten minims of liquor opii sedativus are given and the dose is repeated in a few hours if he is at all restless and complains of pain. He is directed to hold his urine for six or eight hours, if possible; at the end of this period, when he is allowed to pass it himself, the urine will generally come in a good stream. For a time micturition is attended by more or less pain and smarting, and in most cases the urine will be slightly stained with blood for the first day or two after the operation. On the following morning, if there is no sickness from the anaesthetic, the boracic acid mixture, which has been discontinued on the day of operation, is commenced again. On the fourth morning, either a cocaine bougie or a drachm of a 10 per cent. solution of cocaine is introduced into the urethra, and, after an interval of ten or fifteen minutes, Lister's sounds, 9–12 to 12–15, well carbolicised, are passed through the stricture. By means of the cocaine the pain which usually attends the passage of an instrument for the first time after operation is more or less completely prevented. During the remainder of the patient's stay in the hospital, Lister's sounds are passed daily, and before leaving he is himself instructed how to pass a No. 9–12, which he is allowed to take away with him, so that in the future he may keep the stricture dilated by the occasional passage of an instrument, and therefore be independent of further surgical assistance. The average length of time spent in hospital after the operation in the six cases referred to was twelve days.

Contra-indications.—I am of opinion that internal urethrotomy should not be performed in cases where the urine is alkaline and offensive, containing a large amount of pus,

¹ When these remarks were written I was not aware that Mr. Bruce Clarke, in a paper on the “Value of Antiseptics in Internal Urethrotomy” (THE LANCET, Oct. 13th, 1888), had previously directed attention to this subject; and though the plan of treatment which he recommends differs somewhat in detail, it is essentially the same in principle.

² Surgical Diseases of the Urinary Organs, third edition, p. 144.

nor again in cases where it remains so after a course of boracic acid administered internally and continued for a fortnight or three weeks. When these conditions exist, they usually point to the presence of a severe form of chronic cystitis. Under these circumstances the stricture, if it does not yield to dilatation, is best treated by external urethrotomy, and at the same time the cystitis can be relieved by draining and irrigating the bladder through the perineal opening. Provided that the urine is acid, I believe that a slight amount of pus in the urine is not a bar to internal urethrotomy; for this condition was present at the time of operation in four of the six cases above referred to.

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TWO CASES OF HÆMORRHAGIC URTICARIA.

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THE following two cases appear to be sufficiently similar and unusual to be worth putting on record. I am indebted to Dr. Donkin for permission to publish them.

John C—, aged seventeen years, a letter sorter living in Westminster, was admitted into the Westminster Hospital, under the care of Dr. Donkin, on April 4th, 1888. He had never had any previous illness, and his family history was excellent. No history of hæmophilia. The account he gave of his present illness was as follows:—On March 28th he noticed a small red slightly raised spot about a quarter of an inch in diameter on the inner side of the right leg, followed in a day or two by numerous similar spots on the inner sides of both right and left legs. They appeared to the patient to come out first as red spots. They were accompanied by slight itching. Both ankles and the right knee began to swell on March 1st; they were slightly painful and worse at night. There was no headache or sickness, but he felt slightly feverish. There was no history of any unwholesome ingesta immediately before the illness, and he had had plenty of wholesome food and vegetables daily. The only unusual article of diet he could recollect was an ostrich's egg, which he had eaten on March 31st. He was occasionally employed in sorting foreign letters. He had recently had unusually hard work and not much fresh air. On admission he was noted as not appearing particularly ill or in pain. The hands and arms—and to a less degree the face and buttocks—were covered with numerous slightly raised spots of irregular outline, but tending to be circular, about a quarter of an inch in diameter, the most recent of which had the appearance of ordinary urticarial wheals, but the older ones were of a dark-purple colour from the presence of effused blood. The oldest spots of all had subsided, leaving nothing but a stain presenting the various colours usually resulting from the changes undergone by effused blood when becoming absorbed. There were many such stains on the legs and feet. There was considerable effusion into the right knee, but no pain. There was nothing abnormal detected in the heart or lungs. The temperature reached 100° in the evening. On April 7th the left elbow and both wrists became swollen, tender, and hot. The back of the left hand also became swollen. There were no other symptoms present, and the patient did not appear ill. On the 9th subperiosteal hæmorrhages on the lower part of the right and upper part of the left radius appeared and there was some bleeding from the gums. On the 10th hæmorrhage took place into the right upper eyelid, which lasted for some days and then disappeared, and the right epididymis became swollen and painful. On the 11th the left eyelid also became greatly distended with blood, and for the first time since admission the temperature rose to 103·8°. On the 12th there was effusion of blood into both sides of the neck and tongue. Slight swelling of the left knee also appeared, which rapidly subsided. The swelling over the radii had now subsided, leaving a stain like a bruise. The hæmorrhagic urticarial spots had meanwhile mostly subsided, although a few similar ones continued to appear. Slight diarrhoea now came on, and lasted for a few days, but there was no melæna or hæmaturia. The blood was at this period examined by Dr. Hebb, but whether drawn from spots or from any other part of the body, by day or by night, revealed only a slight excess of white blood-corpuscles and no micro-organisms. There was no enlargement of the spleen or liver. On the 13th great œdema of the whole scalp appeared,

which gradually subsided in the course of the next three days. Eyes examined ophthalmoscopically; no hæmorrhages seen. On the 16th his sputum contained some dark blood; and on examining the lungs impaired resonance and bronchial breathing, with a few crepitations at the end of inspiration, were detected in the left supra-clavicular and supra-spinous fossæ. Temperature 99·4°. In the course of the next few days his general condition improved, but the dulness at the left apex increased in extent, and the breath sounds became inaudible. An exploring syringe was introduced at the angle of the scapula, but nothing was withdrawn by it. Temperature ranged between 99° and 100°. On the 21st numerous fresh spots came out on both arms, shoulders, and ankles. They appeared first as ordinary urticarial spots, and then became hæmorrhagic. By the 25th the physical signs at the left apex were again normal. From this time no fresh spots appeared, and his general condition, which, indeed, at no time was at all serious, rapidly improved. On May 17th he left the hospital quite well. He was seen six months afterwards, and was then, and had been since his discharge, perfectly well.

The second case I did not see myself, but it appears from the description of the case, and from the impression it produced on those who saw it, to have been very similar, only more severe, and ending fatally. I abstract the notes from the case-book and post-mortem record.

George H—, aged twenty-eight, a potman, living in Westminster, was admitted under Dr. Donkin on Feb. 12th, 1887. The patient had suffered from a cough from the age of eight years. He had never been out of England. He had had plenty of vegetable food recently. On Feb. 5th he first noticed red spots on the thighs, which were tender to touch; at the same time his knees swelled and were painful. Shortly afterwards similar spots appeared on the arms, and the other large joints became swollen and tender. Next day the gums became swollen and tender. On the 8th similar spots appeared on the face, particularly round the eyes. On admission he lay high in bed; face pale; lips bluish; eyelids and surrounding tissue swollen, and covered with dark-purple patches; a similar patch on upper lip; many other patches, dark purple also in colour and slightly raised, on the arms and legs; gums soft and tender, but not much swollen; general bronchitis and emphysema; heart sounds clear; urine contained no albumen; temperature 103°–102°. By the 16th fresh spots had appeared on the back, and those on the face and extremities had extended considerably. They were tender when touched. On this day he was seized with great dyspnoea. On auscultation the heart sounds appeared still to remain clear, although much masked by the sounds in the lungs. The knees and wrists again became swollen and tender, and the size and number of the purpuric patches rapidly increased, and a brawny swelling appeared on the back of the hand. Temperature 101°. He died on Feb. 17th with symptoms of heart failure, the temperature falling to normal before death. The necropsy was performed eighteen hours after death by Dr. R. G. Hebb. The body was somewhat emaciated; both hands and both feet slightly œdematous. The face was covered almost as by a mask with a slightly raised purpuric rash. The lips were much swollen, tense, and of a purple colour. The gums were a little ulcerated, but not swollen and spongy. Over the rest of the body were numerous patches of a purple colour, similar to those on the face but not so large and confluent. These were most numerous on the hands and feet. These spots were due to extravasations of blood extending as deep as the subcutaneous tissue. Examination of the knee and wrist-joints gave negative results. The chest was barrel-shaped. Lungs extremely emphysematous; pallid; no consolidation. The right pleural surfaces generally adherent. Bronchitis. Larynx *nil*. Heart, 11 oz. Ring of recent vegetations on mitral valve and a few on the tricuspid. There were a few subendocardial petechiæ and extravasations into the cardiac tissue. Aortic valves normal. Pericardium normal. Liver, 49 oz.; of a dark purple colour and firm consistence. Spleen, 4 oz.; of a dark purple colour; firm. Kidneys, each 5 oz.; resemble cardiac kidneys in colour and consistence. No extravasation in the liver, spleen, or kidney. Stomach: walls thin; some catarrh; a few petechiæ at cardiac end only. Brain, 45 oz.; membranes and nervous tissue *nil*. Microscopical examination of the hæmorrhagic patches in skin and heart muscle showed no evidence of red corpuscles, but there were numerous