A CASE OF COMPLETE RUPTURE OF THE URETHRA, WITH EXTRAVASATION OF URINE.

By ERNEST MACKENZIE, M.B., C.M., Cheadle, Staffordshire.

WILLIAM S., aged 42, baker, etc., in descending from his warehouse, fell off the ladder astride the iron handle of a truck standing vertically. Shortly after the accident, in trying to relieve the desire for micturition, he noticed a stream of blood coming from his meatus, followed with difficulty in the passage of urine. He lost about two ounces of blood.

October 5th, 1885. He at once sent for me, and on examination the perineum was found to be slightly swollen, excessively tender, with a small skin-abrasion in the centre. He was ordered a hip-bath, and sent to bed. A few hours later, with the assistance of my father, all our attempts to pass a catheter failed, a quantity of blood followed these attempts. Warm fomentations were applied to the perineum, which somewhat relieved the pain.

October 6th. Micturition was difficult and painful; the urine was preceded by a few drops of blood, and followed by a "peculiar creeping, smarting sensation," referred by the patient to the perineum. The swelling in the perineum had increased, and become harder. There was no oozing from the skin-abrasion. Temperature 100° Fahr. For the next three days, his temperature ranged between 100° Fahr. and 101° Fahr.

October 10th. Temperature 102° Fahr. The swelling or tumour in the perineum had much increased in the night, and fluctuation was detected. This was opened by free incision, when from one to two ounces of bloody urine with a little pus gushed out. The patient was asked to micturate, which he did in a free stream through the opening just made. He was much relieved by the incision and free micturition.

October 11th. Temperature 101°. In order to ascertain, if possible, the extent of the injury to the urethra, the wound in the perineum was stretched with a pair of blunt pointed dressing-forceps, when the divided vesical end of the urethra could be seen deep in the perineum. Hence our diagnosis of complete rupture of the membranous portion of the urethra. A No. 10 gum-elastic catheter (without stylet) was passed through the penis as far as the wound, and a second from the wound into the bladder. This was withdrawn, and the first one, after many attempts, was passed onwards into the bladder, guided throughout by one finger of the left hand in the perineal opening. This was tied in and left. The perineal opening was washed out every morning and dressed.

October 14th. Temperature 99° Fahr. The glans penis was painful, the foreskin oedematous; there was a discharge of thick yellow pus along the outside of the catheter. This increased until October 20th, when it was thought necessary to withdraw the catheter, which was found to be quite decayed, the portion within the bladder corroded.

An attempt to pass another catheter failed, and, as each attempt was followed by a good deal of bleeding, it was decided to leave it for a few days.

On micturating for the first time after the removal of the catheter, a very narrow stream of urine passed from the meatus, the main stream passing through the perineal opening.

For several days, micturition was accomplished partly through the penis and partly through the opening, till October 28th, when all the urine passed by the penis. Sometimes during the next few days there would be slight dribbling from the perineum during the act, till, on November 3rd, I managed to introduce into the bladder a No. 7 *bougie à coudé*, the resistance at the wound not being very great; this was followed by a No. 8 and No. 9 with difficulty; the latter was left in for three hours; on the following day for five hours. Bougies were passed each day until, on November 11th, a No. 11 was passed.

November 11th. The perineal opening was healed up completely. The patient was able to walk about, though not quite with his usual stride. A bougie was to be passed daily for some weeks.

REMARKS.—The withdrawal of the catheter was rendered necessary by the action of the decomposing urine, examination afterwards showing clearly the risk incurred in letting it remain longer. The speedy action of the urine was remarkable.

Had we succeeded in passing a second catheter after the withdrawal of the first, the result could not have been more satisfactory. It is remarkable that a blow severe enough to completely sever the urethra

should have produced nothing more externally than an abrasion of skin.

February 22nd, 1886. It is still necessary to pass a bougie once a week.

NOTE ON THE ASSOCIATION OF RHEUMATISM WITH SCARLATINA.

By T. F. RAVEN, L.R.C.P., M.R.C.S.E., Broadstairs.

In a group of cases of scarlatina, recently under observation, several points of interest were presented; and the appearance of irregular rheumatic affections especially deserves notice.

All the cases occurred under one roof. The house was in a thoroughly satisfactory sanitary condition. The disease began with a domestic servant, who, a few days previously to her attack, had been out with her lover and had been kissed by him. He was just convalescent after an attack of quinsy, which was well marked, and had ended by crisis. There was no other trace of infection. The prominent symptoms in her case were pain and stiffness in the muscles at the back of the neck. There was some tonsillitis, and an ill-marked rash was visible upon the chest only. Peeling of the cuticle followed, and she suffered an attack of erythema nodosum, after which she had subacute rheumatism of the hands and knees. There was no albuminuria.

Three little boys contracted the disease from her. Of two of these cases, it is enough to say that one was mild and the other sharp. The third case, which occurred last, is worth a brief notice. The boy, aged 4 years, was discovered to have a faint rash on the abdomen; otherwise, he seemed in good health. His temperature was subnormal; no affection of the throat could be detected; his appetite and spirits were unaffected. In two or three days the temperature arose to 100°, and the rash became vesicular. Some clear fluid could be drawn off with a needle, but, unfortunately, there was no one in the house to whom inoculation could be recommended.

During the progress of these cases of scarlatina, symptoms of rheumatism appeared among three adult members of the household. Colonel E. was taken ill with feverish symptoms. He had severe pain in the muscles at the back of the neck. The throat was injected. The temperature rose to 103°, but quickly subsided. This was followed by subacute rheumatism of the fibrous structures of the knee-joints, and by sciatica on both sides. He was physically depressed, and suffered from an indolent boil on the hand. There was at no time any rash, or albuminuria. The urine was pale and copious.

E., an adult female, who was nursing one of the boys, complained of severe pain and stiffness in the muscles behind the neck. The throat was red, and she was feverish. No rash appeared. The urine was pale and copious, and non-albuminous.

B., an adult female, was taken ill with feverish disturbance. The neck was stiff and very painful, and subsequently she suffered pain about the sacrum. Her throat was somewhat injected, but she had no rash. Here, again, the urine was free from albumen.

I have never before witnessed symptoms like these in connection with scarlatina. In discussing the subject with a medical friend a short time ago, he at once remembered that some time previously, whilst in close attendance upon scarlatina, he suffered a feverish attack, accompanied by severe pain in the cervical muscles.

THE DISINFECTION OF PHTHISICAL SPUTUM.

By H. HANDFORD, M.D.,

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THE tubercle-bacillus, on account of the relatively high temperature (86° to 106° Fahr.) required for its growth, can only live and multiply in animal bodies, at any rate, in temperate climates. But, though the bacilli are thus prevented from multiplying naturally outside an animal body, and soon die, it is not so with their spores, of which each bacillus, when in the spore-bearing condition, contains from one to three or four. The spores are very much more tenacious of life, and will bear great extremes of heat and cold. They are, however, with certainty killed by exposure for fifteen minutes to a moist heat of 212° Fahr.; this can be obtained either by steam or by plunging into boiling water. Dry heat is not so certain in its action, and requires a much longer exposure, about two hours to a temperature of 250° Fahr. The duration of the vitality of the spores at the ordinary temperature, in a climate such as this, reaches, at any rate, three or four months, and occasionally longer. This has been shown by Koch

and by Schill and Fischer (*Mittheilungen aus dem Kaiserlichen Gesundheitsamte*, Band ii, p. 133. Berlin, 1884), who dried phthisical sputum, and, on using it for inoculating guinea-pigs, found it still active after the lapse of thirteen weeks. After twenty-five weeks, the same specimen had lost its activity, two guinea-pigs inoculated with it remaining healthy. Another specimen, found active after thirteen weeks, had diminished in activity after twenty weeks, only two out of three guinea-pigs becoming tubercular after inoculation; and had still further diminished after twenty-six weeks, only one guinea-pig out of three being affected. Finally, after thirty-two weeks, it became inactive, four guinea-pigs inoculated with it all remaining sound.

In most cases of phthisis, the sputum contains tubercle-bacilli, often in great numbers, and usually in the spore-bearing condition. This was very clearly shown by Dr. Gaffky (*Mitth. aus dem K. Gesundheitsamte*, Berlin, 1884), who examined the sputum daily in twelve cases of phthisis.

The sputum was examined 982 times.

Tubercle-bacilli were found 938 "

" not found 44 "

Thus, the result was positive in 95.5 per cent. and negative in only 4.5, although, on each day, only one cover-glass preparation was examined.

The spores retain their vitality, and remain capable of growing and producing tubercle-bacilli, for a period of at least three months, provided only they meet with suitable conditions. It is important, therefore, with a view to checking this wide-spread dissemination of tubercle-spores, to take measures to disinfect phthisical sputum. With the purpose of ascertaining the most suitable method of effecting this object, Drs. Schill and Fischer carried out a series of experiments in the Hygienic Laboratory in Berlin (*Mitth. aus dem K. Gesundheitsamte*, Berlin, 1884). Corrosive sublimate, thymol, iodoform, arsenious acid, iodine, and carbolic acid, were employed among other things, and the most suitable was found to be a 5 per cent. solution of carbolic acid. When mixed with an equal quantity of this solution, fresh sputum was, after twenty-four hours, completely disinfected. Exposure to steam at a temperature of 212° Fahr. for half an hour to one hour, or to boiling water for ten minutes, was also effective.

Let us trace the phthisical sputum from the lungs, and see what is probably the usual fate of the tubercle-bacilli and their spores, contained in it.

In the process of expectoration, the bronchi, trachea, or larynx may, and not unfrequently do, become inoculated. Also, if during the process of expectoration, the pus be inhaled by some sudden disturbance of the respiratory movements, and carried into the other lung, or into an as yet healthy part of the same lung, a fresh growth of tubercle, and a fresh centre of infection, may be set up. For this there would appear to be no remedy.

A certain amount of the sputum is swallowed, and this occasionally—in fact, in a large number of cases, sooner or later—gives rise to tubercular disease of the intestine. The practice of swallowing sputum should be avoided, not only as a nasty habit, but as one involving some risk of auto-inoculation.

On leaving the mouth, some of the sputum is projected immediately on to the ground in the open air, and cannot be dealt with. Much of it eventually dries, and is carried about by the wind, clinging to particles of dust. The bacilli themselves die, but the spores retain their vitality and are capable of propagating disease.

A large proportion of the sputum is expectorated into special receptacles; these should contain a 5 per cent. solution of carbolic acid, equal in quantity to the amount of the sputum. This practice, suggested by Dr. Ransom, has been carried out in all cases of phthisis in the Nottingham General Hospital for the past two years or more, each spittoon containing two or three ounces of carbolic lotion before being used. If this process of disinfection be not carried out, the spores find their way in an active condition (for they are not killed by the growth of putrefactive bacteria among them) into the sewers or middens, and eventually, some of them, into the air. Handkerchiefs and sheets contaminated with sputum are thoroughly disinfected by boiling water; blankets and mattresses, etc., by exposure to steam for about one hour, as in the Washington Lyon disinfecting apparatus, on to a dry heat of 250° Fahr. for several hours, as in many other disinfecting stoves.

Attempts have been made to destroy the tubercle-bacilli in the lungs by the inhalation of antiseptic vapours and atomised fluids. For this purpose creasote, iodine, carbolic acid, eucalyptus oil, sanitas, etc., have been used. But Dr. Hassall (*The Inhalation-Treatment of Diseases of the Organs of Respiration, including Consumption*) has shown that the quantity of the antiseptic that enters the lung is so infinitesimal as to be quite incapable of destroying the tubercle-bacilli,

much less their spores. This applies not only to the oro-nasal inhalers, but also to the method of inhalation by the vapour of hot water, and to the inhalation of fluids atomised by the steam-jet. By all these methods beneficial effects are often produced, more especially in the way of allaying cough; but the action is probably chiefly on the larynx and trachea. Whether the method of inhalation in specially constructed chambers, supplied with medicated air, will be more successful, is very doubtful. It has not, at present, been much used on account of the great expense.

PELVIC TUMOUR COMPLICATING PREGNANCY.

By P. HORROCKS, M.D., B.Sc., M.R.C.P.,

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E. D., aged 30, came to the gynecological out-patient department at Guy's Hospital, under my care, in July, 1883, complaining of profuse losses at the monthly periods, accompanied by severe pain. Each period lasted seven days, and the loss was so profuse that the patient was greatly weakened thereby, and stated that she sometimes "fainted away."

On examination, a tender, semi-elastic, solid tumour, convex below, was felt occupying the central and left lateral pouches of Douglas, the cervix being pushed forwards, and a little to the right. Bimanually, the fundus uteri, which was rather high up and to the right, could be felt distinct from the tumour at the top, but apparently intimately connected with it along the greater part of the posterior and left lateral surfaces. The mobility of the uterus was impaired, and the tumour moved somewhat rigidly with the fundus. The patient stated that she had had three children, all born alive at full term, and no miscarriages. The last child was born in November, 1879, and she dated her present complaint from about July, 1882.

The tumour was diagnosed as a fibro-myoma of the uterus, and half-drachm doses of liquid extract of ergot were given. Later, an uterine sound was passed for three inches and a half, with the concavity forwards and a little to the right, and the handle over to the left. Very little mobility could be obtained. She missed the next period, and the ergot was stopped, and bromide of potassium given instead; she missed two more periods, and, on October 4th, I found the uterus considerably enlarged, though, the cervix was not so soft as one would expect in pregnancy. I thought she was pregnant, but she was not sure about it. There was a little fluid in the breast. A week later, flooding came on, and a "tumour" was passed (ovum?).

November 17th. The uterus was decidedly smaller than on the last visit. Ergot was again administered. The tumour behind was larger, if anything.

In December and January, she had seven weeks' amenorrhœa, and suffered from bleeding piles. She menstruated at the end of January.

April 26th, 1884. There had been amenorrhœa during the last nine weeks. On examination, the tumour could be felt as before, but the uterus was considerably enlarged, and probably pregnant. The patient was carefully watched, and, the pregnancy advancing unmistakably, she was admitted into the hospital under my care on June 10th.

The uterus now reached midway between pubes and umbilicus, and more towards the left than the right side. The tumour could be felt as a large swelling in the pouch of Douglas. She complained of pain and difficulty in passing motions. There were large external piles. She was ordered an ounce of castor-oil immediately, and unguentum gallicæ cum opio for application. There was no action of the bowels. A mixture of magnesia and sulphate of magnesia was ordered. No action followed; and a soap-enema was ordered. This acted fairly well. I examined the patient three times a week, and each time endeavoured to push the tumour up into the iliac fossa out of the pelvis. Eventually I succeeded, and, as it seemed to lie well out of the way in the left iliac fossa, I sent the patient home on June 25th. I saw her from time to time in the out-patient department, and she went on to full time, and was safely delivered of a living child. It was not until the child was about two or three months old that I saw the patient again. The fibroid tumour was much smaller, and lying more on the left side, in the left lateral pouch of Douglas, but not so low down as before. It had evidently involuted during the *post partum* period, and had been dragged from the left iliac fossa into the pelvis.

Up to the present time (February, 1886), I have had the patient under observation. The tumour is not much less, but is certainly not larger than it was. This is strongly in favour of the view that it is an uterine fibro-myoma.