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Clinical Department.

EXTERNAL URETHROTOMY FOR TRAUMATIC STRICTURE COMPLICATED WITH EXTENSIVE FALSE PASSAGE.

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A. B. C., American, twenty-four years old, single, and a freight brakeman, was caught, January 5, 1889, between a box-car and an engine, and severely squeezed antero-posteriorly across upper part of left thigh and left lower lumbar region. He was picked up suffering much from pain and shock, and soon had hemorrhage from the meatus. Some hours afterward was catheterized with rigid metal instrument, which caused him great pain and brought only a little "pure blood." The doctor told him his "bladder had burst."

After this, till January 8th, a soft-rubber catheter was used two or three times in twenty-four hours, withdrawing from a half-pint to one pint of bloody urine each time. January 8th passed, himself, about a pint of nearly normal urine. Had moderate abdominal distention and much pain for first few days, but only slight rise of temperature and pulse.

Symptoms pointed to fracture of pelvis, but at first no positive evidence in the way of crepitus or increased mobility could be detected, either externally or through the rectum. After a few days an induration appeared in perineum, on left side, which remained for several weeks, but finally resolved without opening externally. Two or three weeks after injury, rectal examination showed thickening of left pubic ramus due to callus.

Patient improved slowly but constantly, and was walking about in six or eight weeks.

Symptoms of stricture developed very rapidly, and examination of the urethra about April 1st showed tight stricture six inches from meatus, through which I could get nothing larger than a No. 1 English gum-elastic catheter (about No. 6 French), and this evidently by accident or good luck only, as I could never afterward pass any instrument at all through into the bladder, though I tried certainly a dozen times, over a period of three weeks, with bougies of every kind. Patient passed a stream about size of No. 6 French, which was constantly getting smaller.

I advised a perineal operation, and patient consented. April 24th, etherized with Drs. Carnohan and Armstrong assisting, and put in lithotomy position; large sound passed down to the obstruction and held accurately in median plane of body and the canal opened near its tip by the usual median incision. A loop of silk was passed through each edge of the divided passage, and the anterior angle of the wound held open. Many small openings appeared on sides and at the end, and careful attempts were made, by probing, to pass soft and rigid fine instruments through these into the bladder, and by pressure on the bladder to force out urine to indicate the true opening; could neither get through, nor force out a drop of urine. The patient's bladder could hold but a few ounces, and he had not been able to retain any urine for some hours before operation, as ordered.

After nearly two hours spent in trying to find the passage, decided to postpone attempt to another day, when the parts were free from blood, rather than do a Cock's operation, which would have been very uncertain with bladder nearly empty, and moreover was not imperative to relieve retention from obstruction with extravasation. Drainage-tube, carbolic irrigation, and antiseptic dressing. Rallied well and very little discomfort; at 12 P.M. passed about a half-pint of clear urine, *exactly same as before operation, through meatus*, apparently not a drop through perineum. During 25th passed about a half-pint two or three times, wholly through meatus.

It was evident that, 1, the opening through which the urine came was *anterior* to the incision; 2, that the incision had either been made into a false passage which occupied the normal position of the urethra, or the urine was coming through a false passage which opened into the urethra anterior to the obstruction. Acting on this hint I, with the help of my colleagues, etherized the patient again April 26th, previously putting a ligature on the penis to retain the urine, introduced sound as before, bringing it out through perineal wound, holding its edges open with loops of silk, then cut with scissors, one-fourth inch at a time, along the sound as a guide, through all the tissues from the floor of the passage through the skin, and in direction from behind forwards. Not till I had gone distance of fully an inch and a half anterior to the cul-de-sac did an opening appear on the roof of the passage, into which I managed with great difficulty to pass, apparently through a sinuous track, a No. 5 French, conical, soft, black bougie. This was hugged so tightly that there was no room to pass along it a metallic guide, and I pushed a scalpel along its side, through a dense gristly substance, for one inch before urine flowed, dividing freely enough to pass a finger into the bladder. This passage was not in the middle plane of the body, but distinctly toward the left. It was evidently the true urethra displaced, either through inclusion in the callus of the fracture, which remains as a prominent knob on the pubic ramus, or from cicatricial contraction of extra-urethral tissues. A No. 12 English gum-elastic catheter was tied in through the meatus and kept in first two days; through this all the urine came; when removed, it all came through the perineum for twelve days, but was under perfect control; then gradually more and more came through meatus, and none came through perineum after the thirtieth day. For the first week bladder was irrigated every second day, through catheter, with saturated solution boracic acid, made to return through perineum. From the sixth day a large steel sound (26 to 30 French) was passed every second day. The patient made a perfect recovery, without chill or bad symptom of any kind; he now makes a stream as large as ever; passes, himself, a 26 French sound, and is as well as any one.

The chief interest of the case lies in the additional difficulty of an operation, — sufficiently difficult when uncomplicated — due to the presence of a large, long, false passage occupying the position of the normal urethra, while the true urethra was hardly more than a pin-hole on the wall of a canal large enough to admit 30 French instrument and one and a half inches anterior to the cul-de-sac.

Reports of Societies.

FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION,

HELD AT NEWPORT, R. I., JUNE 25TH TO 29TH, 1889.

SECTION IN MEDICINE, MATERIA MEDICA, AND HYGIENE — F. C. SHATTUCK, M.D., CHAIRMAN.

Third Day — Thursday, June 27, 1889.

The first paper of the afternoon was by Dr. V. C. VAUGHAN, Ann Arbor, Mich., on

THE ETIOLOGY OF TYPHOID FEVER.

In 1880 Prof. C. J. Eberth, of Zurich, in eighteen out of forty-eight cases of typhoid fever, found in sections of the spleen and mesenteric glands a bacillus which was distinguished from the ordinary putrefactive bacilli by the difficulty with which it took up the aniline stains. At the same time Eberth reported that in twenty-four similar examinations of those dead from other diseases he was unable to detect this bacillus, and from these facts thought himself entitled to claim that he had discovered the true germ of typhoid fever. Since that time various experiments had been made by many different observers. The attempts which had been made to induce the disease in the lower animals by inoculation with this germ were numerous and interesting. To sum up the evidence which we had upon this point we might say: (1) the Eberth germ was found invariably in the bodies of those dead from typhoid fever; (2) it had been isolated and grown in pure cultures; (3) all attempts to induce typhoid fever in the lower animals by inoculation with this germ had thus far been without success; (4) experiments showed not only that the germ failed to multiply in the lower animals, but that when introduced by inoculation it soon died.

Dr. Vaughan thought it was now time to add this rule to the four rules of Koch: before any micro-organism could be considered the true and sufficient cause of a given disease it must be shown that the chemical products of that germ were capable of producing the characteristic symptoms and lesions of that disease in an acute form. Did this germ produce any chemical substance which would markedly elevate the temperature, such as mydaine, or any which induced local inflammatory and necrotic changes in the tissues, such as cadaverine or putrescine? We could not say that the Eberth germ had been demonstrated to be the true and sufficient cause of typhoid fever, judging from the failure of the attempts of Brieger in investigating the nature of typhoid poison. To sum up the results of experiments on this point: (1) the result obtained upon injections of the Eberth germ was found to be in direct proportion to the amount introduced; (2) that the Eberth germ did not multiply in the blood; (3) the same symptoms and lesions were obtained by the introduction of non-pathogenic organisms. To this the bacteriologist might reply that the lower animals did not have typhoid fever. If we could experiment with man the result would be different.

Dr. Vaughan then described his own experiments in attempting to discover a chemical poison excreted by the Eberth germ. He took the faeces of typhoid