FIG. 1.

FIG. 2.

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NEW METHODS IN THE TREATMENT OF EXSTROPHY OF THE BLADDER AND OF ERECTILE TUMORS.

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I. EXSTROPHY OF THE BLADDER; OPERATION.

THIS operation consists in removing the exposed mucous membrane of the bladder, so that flaps drawn from the adjacent skin may adhere directly to its raw surface. In the case detailed below, the mucous membrane was removed down to the ureters. Flaps drawn from the sides were then united on the median line. Union was solid in about ten weeks. The usual surgical resource for this sad malformation has been an attempt only to cover the mucous membrane. But it would seem better to obliterate it, by the same operation, than to form a cavity which is worse than useless because it collects the salts of the urine.

The usual operation, of which a case is given below, also needs a more extended dissection. It requires that a first flap be turned down upon the bladder from above, the object of which is to secure a lining of skin for the new cavity. This flap is covered with two others drawn from the sides and united upon the median line. The denuded surface from which the first flap was taken is then similarly closed by further incisions. By the operation now proposed, both the first flap and the dissection for covering the surface which supplies it are unnecessary. In both operations flaps are best cut where the skin is most relaxed. Hence it is better to include in the incisions the loose integuments of the groin and even of the scrotum. The edges can then be brought together in any direction in which the flaps yield most readily.

In a third case cited below, where the bladder (open over the pubes) still presented a cavity, I was able to close this, so that by wearing a truss-pad the patient could retain urine for two hours. This case, however, was not one of complete exstrophy, like the others.

I am indebted to Dr. H. H. A. Beach for the following abstract from the hospital records.

CASE I. *Complete Exstrophy; New Operation.*—E. C. A., six years old, presented a complete exstrophy of the bladder, which was wholly exposed over a surface of two and a half inches; the skin was tense and the abdominal wall thin. The testicles were still in the inguinal canal.

December 13, 1874. Operation, under ether. The mucous surface of the exposed bladder was carefully dissected off, and the lateral flaps, including both inguinal regions, were united upon the median line and transversely above it. Sixteen silver sutures were introduced, and a piece of adhesive plaster was placed over the whole, to keep the parts immovable.

December 14th and 15th. Patient doing well, with little pain.

December 16th. A good deal of swelling about the wound, with a small slough near its upper extremity, where urine oozes.

December 18th. Pulse 140. Temperature, A. M., 101°; P. M., 103°.

December 21st. Twelve sutures removed.

December 22d. Remaining sutures removed.

December 25th. Patient doing well. The wound is healed, except at its upper extremity, where there is a little discharge.

January 22, 1875. A small abscess is forming under the flap. Patient has had a slight convulsion.

January 25th. Abscess discharged through one of the needle-holes.

January 26th. Edges separated a little by ulceration at the upper extremity.

March 1st. Patient is running about.

March 12th. Photograph was taken.

April 10th. Union solid and no tenderness remaining.

May 7th. Discharged, well.

CASE II. *Complete Exstrophy; Old Operation.*—C. P., aged seventeen, entered the hospital with complete exstrophy. Above the symphysis was a pulpy, vascular, and florid swelling, two and a half inches in diameter, formed by the protruded mucous surface of the posterior wall of the bladder. The umbilicus was wanting; no hernia existed, and the testicles had descended. The surface was very sensitive and tender, the penis rudimentary, with a complete epispadias. The urine, distilled from the ureters, fell upon the urethra, which served imperfectly as a spout. The patient was anxious and suffering. A plate covering the part caused excoriation.

June 2, 1868. Operation, under ether. A transverse incision midway between the bladder and the sternum, with vertical incisions at its extremities, surrounded three sides of a flap, of which the hinge was next the bladder. The flap was turned down over the bladder as far as the penis. Additional transverse incisions were now made, and four side flaps were dissected up, two of them abreast of the bladder, and two on a

level with the wound from which the first flap was taken. These four flaps were now drawn to the median line and united, two serving to cover the raw surface of the inverted flap, and two that of the region from which it was taken. The wound was everywhere closely united by silver sutures.

June 3d. Patient quite comfortable, sleeping in a sitting posture to encourage the escape of urine. Flaxseed tea and milk *ad libitum*.

June 7th. Doing well. Appetite good. Takes an opiate at night. The parts in the neighborhood of the wound are carefully washed night and morning, the salts of the urine removed, and the skin protected by castor-oil.

June 11th. Half the silver sutures removed.

June 16th. Patient sits up nearly the whole day, and has an excellent appetite. Flaps are united beneath, while the edges are looking well, though but little united by first intention.

June 18th. Sutures all removed. Patient says that he is much more comfortable than before the operation. The most troublesome feature of the case is the deposition of salts upon the scrotum.

June 26th. Margins pretty well united. All the urine escapes just over the glans penis.

July 7th. Doing finely. Walks about.

August 20th. Cicatrization complete. Bladder wholly covered. His condition is far more comfortable than before the operation. Discharged.

CASE III. *Orifice above the Pubes ; Operation.* — F. W., aged sixteen, presented just above the symphysis pubis an orifice almost an inch in diameter, circular, and in part occupied by a rudimentary glans penis. There were no herniæ, and both testicles had descended. In the erect posture the urine constantly dribbled away. When the patient was lying down the urine collected in the bladder until it overflowed.

November 7th. Operation, under ether. The edges of the aperture and frænum were refreshed, dissected up, and joined with six silver sutures; the orifice was reduced so as to embrace tightly a piece of elastic catheter passed into the bladder.

November 11th. Wound suppurating a little. Glans penis at times enlarged, and trying to escape through the small orifice left from the operation.

November 12th. Catheter no longer worn. Union perfect. Urine escapes wholly through the small aperture.

December 30th. Patient has a sharp attack of epididymitis.

January 2d. Improving.

March. Patient discharged, well. Retains urine for two hours by means of an apparatus consisting of a truss-spring around the pelvis, to which is attached behind a steel spring, passing between the legs and terminating in a pad which compresses the aperture in front.

II. ERECTILE TUMORS OBLITERATED BY CENTRAL CAUTERIZATION WITH A SATURATED SOLUTION OF NITRATE OF SILVER.

In each of the following cases erectile tumors of a formidable nature were easily obliterated by the injection, with a subcutaneous syringe, of a few drops of a solution (equal parts by weight) of nitrate of silver in water. If the tissues are firmly compressed about the orifice of the tube, after its introduction, an eschar of the solid tissues is produced, soon enveloped by coagulum adherent from inflammation, with general blood-stasis in the neighborhood. While the eschar thus made is more distinct and firm than that of acid or of the perchloride, the expression of the blood probably diminishes the danger of embolism. The ultimate result is abscess and solid cicatrization. The first of the following cases was one of a large and pendulous under lip, which was so solidified by a number of simultaneous injections that a V-shaped portion was finally removed from it. The second was one of cirroid aneurism in the cavity of the orbit, which could not have been treated effectually by ligature without sacrificing the eye.

CASE I. Pulsating Nævus of the Lips and Face; Operation; Cure. — A. E., female, aged thirty-six, had a congenital nævus, involving the whole of the chin and lower lip and the inside of the upper lip, with a claret-colored stain extending over both cheeks as far as the ears. The lower lip and the chin were largely hypertrophied and pendulous, pulsating when compressed.

November 24, 1868. Operation. The patient was etherized, and the inside of the whole upper lip strangulated by seven large needles carrying fourteen ligatures.

January 10, 1869. Wound of upper lip entirely healed and tissues contracted.

February 23d. Operation. The patient having been etherized, a few drops of a saturated solution of nitrate of silver were injected by a subcutaneous syringe at eight several places in the thickness of the lower lip, the latter having been compressed upon the point of the syringe during the injection.

February 24th. The patient complains of pain extending down both sides of the neck. Lip much swollen.

February 28th. Little pain; free discharge from the openings; lip swollen and hard.

March 5th. Several small sloughs have come away, leaving cavities beneath the skin. From this time the lip contracted, puckering at the injected points until the whole was solidified.

April 6th. Operation. The patient having been etherized, a V-shaped piece was excised from the centre of the lip, with very little hæmorrhage, except from the coronary arteries.

May 2d. Patient was discharged with a lip of nearly normal size.

CASE II. *Cirroid Aneurism of the Orbit; Operation; Cure.* — H. McC., housemaid, aged twenty-five, noticed in 1868 a small pulsating swelling at the inner angle of the left orbit. Now, a pulsating tumor of the size of a large almond extends from the supra-orbital notch to the bridge of the nose, and backward between the globe and the orbit. It has increased rapidly of late, and the mass has a tortuous feel like that of enlarged and convoluted arteries. Pulsation is strong and heavy, with a thrill, diminished but not arrested by compression at various points of its circumference. Compression of the carotid does not materially affect the pulsation.

October 17, 1874. Operation. Three drops of a saturated solution of nitrate of silver were injected into the centre of the tumor by a subcutaneous syringe. Before the injection the tumor was firmly compressed against the bone over the orifice of the syringe and held there for a minute or two afterwards. A marked venous congestion was immediately noticed in the vicinity of the tumor. P. M. The swelling has extended to the frontal region; eyelid congested.

October 18th. Tumor perfectly hard, without pulsation. Left eye closed by the swelling of the lids. The latter were scarified. Some frontal headache.

October 23d. Lids opening. General swelling diminished, red but less tender.

October 29th. Swelling larger and fluctuating. Eye again closing.

October 30th. Gland in front of right ear and one under left jaw swollen and tender. Pulse 100. Temperature 99.5°.

November 4th. Temperature normal. The site of the tumor is occupied by a large and fluctuating swelling. Glycerine plasma was applied over the tumor to soften the cuticle where the pus seemed to be pointing.

November 5th. The abscess was spontaneously evacuated near the inner canthus.

November 12th. The patient was discharged at her own request.

December 12th. The patient returned for examination. The place filled by the tumor was now occupied by a firm cicatrix everywhere adherent to the bone.

EXPLANATION OF FIGURES.

Fig. 1. — Exstrophy of the bladder. Lines of the incisions. In uniting them over the dissected surface of the bladder, the points A A A were brought together, and the points B B; the skin more readily yielding in a direction obliquely upward.

Fig. 2. — Photograph of the wound after healing.