

in general necessary to effect a cure. If, however, it is attacked at its very commencement, this result is often obtained in from one to two years.

Such are the principles, such the method, and such the result of this noble experiment, first thoroughly tested on the summit of the Abendberg.

Within a few years a similar institution has been established in Paris, and I have understood that other of the European governments are preparing to follow the example thus set them, by the foundation within their own dominions of asylums devoted to the same philanthropic purposes.

ART. VI.—*On Vesico-Vaginal Fistula*. By JOHN P. METTAUER, M.D.,
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THIS disgusting infirmity is generally the product of tedious labours, in which the bladder is sometimes ruptured from over-distension with urine, induced by the pressure of the child's head upon the urethra, and from neglect of the catheter. In some instances, too, the long-continued pressure of the head of the fœtus upon the cervix vesicæ, without retention, so disorganizes its textures, as to cause sloughing to take place after delivery, and thus to form an opening between the bladder and vagina. Wounds have likewise opened a communication between the bladder and vagina, which, finally, have degenerated into fistula.

One of the most loathsome concomitants of this afflictive accident is inextinguishable incontinence of urine; and this attendant not unfrequently subjects the woman to troublesome excoriations of the labia, perineum, and sometimes of the anus, and groins. The general health suffers impairment in some instances, but not generally to a serious extent. The mortified feelings, and confinement, generally seemed to make greater inroads on the health of females affected with this infirmity, than the infirmity itself.

The management of the following cases will exemplify the mode of treating vesico-vaginal fistula, which I have usually adopted.

CASE I.—The subject of this case was a robust and well-formed woman, about thirty-four years of age. She had given birth to four children before the unfortunate labour took place, from which the accident followed; and this was not distinguished by anything calculated to produce the accident except protraction, and the greatest neglect of the catheter, on the part of the obstetrical attendants. The fistula was the effect of extensive sloughing of the bladder, about the central part of the region embraced by the imaginary lines of the vesical triangle, and was fully the size of a Spanish milled dollar, and nearly circular. The margins of the opening were even and perfectly healed over; and the contiguous structure ultimately healthy in all respects. This case had existed six months before it came under my observation. Not a drop of urine had passed through the urethra since

the fistulous opening formed; and the woman necessarily suffered from incessant incontinence and dribbling of urine, with their consequences, excoriation and pain.

Two days before the operation was performed, the woman's diet was restricted to liquids exclusively, such as panada water, tea poured from soaked bread, and rice gruel. On each of these days, a gentle purgative of oil was directed, to place the alimentary canal in as jejune a state as possible before the operation was performed.

For this operation, the woman was placed and confined precisely as in the operation for laceration of the perineum. The vagina was dilated with two pretty broad spatulae introduced some distance into it, properly curved, and firmly pressed against the opposing sides of the walls of the passage, and steadily held by an assistant, on each side of the woman. The first step in the operation was to denude the margin of the fistulous opening of its mucous covering. For this purpose, I employed delicate hooks, and forceps to fasten upon and elevate the mucous covering, while it was excised with keen scissors curved flatlong. This operation required care that the section should not be carried too deeply into the submucous textures; and, also, that the separated belt was removed entire if possible. The denuded surface thus formed was fully eight lines in width, and embraced the salient free border of the fistula, as well as the margin exterior to it on the vaginal surface. To render the operation less difficult, by reason of unavoidable hemorrhage, the wounded surface was frequently ablated by injecting cold water upon it; which expedient served both to remove adhering coagula, and to arrest the flow of blood from the incisions. As soon as the margin was effectually denuded of its epithelium, the opening was closed by approximating its opposing sides, with a series of metallic sutures, introduced in the following manner. A straight needle, thirteen lines in length, was armed with a silken ligature doubled, so as to form a noose at one of its free ends, fully six inches long. In, or upon the noose, the bent extremity of a leaden wire, of small size, was fastened. The eyed end of the needle was then pressed into the small thimble-like cavity on one blade of the forceps needle-porte. The blades of the forceps needle-porte, were then partially closed, so as to allow me to introduce that instrument with the needle into the vagina. The blades were again separated, the one supporting the needle being carefully passed into the fistulous opening with the point of the needle directed to the floor on the left side of the bladder, fully ten lines beyond the border of the fistula, and perpendicular to the wall of the bladder. I now brought the point of the needle in contact with the inner surface of the bladder, closing the blades of the forceps needle-porte in the vagina, at the same time upon its surface so as gently to compress it. The needle was then pressed through the vesico-vaginal wall, by firmly closing the blades of the needle-porte, until its point appeared through the perforation of the unarmed blade on the vaginal surface. The needle was now taken hold of with the dressing-forceps, and drawn fairly through the wall, as well as the compound ligature attached to it. The porte-forceps was now disengaged and removed from the fistulous opening and vagina. The metallic thread was drawn through one-third its length, and after separating its hook from the loop of the thread still remaining in the eye of the needle, its other extremity was connected with the loop, and the needle again inserted into the cavity of the porte-blade, and the opposite side of the opening sutured as the first. The first suture was applied within seven lines of the posterior verge of the opening

so as to approximate the opposing denuded surfaces accurately, without forming much of a pucker. After drawing the last end of the metallic thread through, the two extremities were placed side by side, and very slightly twisted together. The metallic ligatures were fully eight inches in length, to prevent their displacement before they were twisted together; and to afford sufficient length for the twisted portion, to render the ligatures easy of access, should they require to be tightened subsequent to the operation. According to this plan, eight distinct sutures were introduced; and after they were all loosely inserted, they were progressively tightened by traction and by twisting their free ends together, commencing with the first, using for the purpose the dressing forceps. As the ligatures were tightened, I found it necessary to adjust the denuded margin from time to time with the probe, so as to have them accurately approximated without puckers, or folds. Every suture was twisted from left to right; and the twisting was continued until each twisted extremity became decidedly erect, and of bristle-like spring, when touched with the forceps. After the sutures were all tightened, the opening was perfectly closed in every part of it; and the line of contact of the opposing surfaces measured two inches. The wires were now cut off a proper length to project a little beyond the verge of the vulva, and the mucous membrane of the labia and vagina was protected against their irritation by investing them with oiled silk.

A short and exceedingly light metallic tube of silver was then introduced into the urethra, and confined with a tape tied to its eye, and one end of the tape carried under the buttock and connected with a circular bandage around the body, while the other was attached to the same bandage above the opposite groin.

In this condition the woman was put to bed, resting on the left side supported by folded sheets, and with the knees tied together.

The third day after the operation, the wires were tightened, and again on the seventh. The urine escaped freely through the tube, without accumulating to any extent in the bladder. Not the slightest uneasiness was felt in the seat of the opening after the first day. There was no fever, nor was there the least action from the bowels until after the eighth day. No other food was allowed but the thinnest liquids. Rice water was the principal food taken, and in very small quantity, and after long intervals. On the thirteenth day, the ligatures were cut away, as directed in laceration of the perineum, and perfect union was found to have taken place throughout the entire line of contact. Indeed, it was not possible to distinguish that line, only at one extremity, so perfectly had the parts united. The tube was not laid aside for four weeks, fearing the contractions of the bladder to expel much urine from its cavity at a time, might endanger the union so recently formed. When the tube was laid aside, it was discovered that the bladder not only possessed its complete expulsive powers, but that the sphincter was also entirely free from disorder. There was not the least contraction of the vagina, and in all respects the parts were perfectly restored. The woman has had two children since the operation, without a return of the accident.

CASE II.—The subject of this case was a servant, aged about twenty, of good constitution, and well-formed; and the fistula followed her first labour, which, according to her representation, was tedious and badly managed; especially, as relates to the use of the catheter, which, strange to remark, was never employed, although no urine had been passed for

twenty-four hours before delivery took place. The fistulous opening was about the size of a twenty-five cent piece of coin, through which every drop of urine passed from the bladder. The vagina was greatly contracted in consequence of the previous ulcerations or sloughing of its mucous lining. That part situated above, or posterior to the fistulous opening, was not longer than the little finger, and consisted of hard, uneven cicatrices, of very unyielding nature. To such an extent had the vagina contracted, that I did not feel willing to attempt the operation for the relief of the fistulous opening, until that passage was, in some degree, restored. Without, it would not have been possible to remedy the fistula, as the field of action would not have been sufficient for the use of proper instruments. My first effort, then, was to enlarge the vagina, which was effected by dissecting down the adhesions, dividing such bands and contractions as existed, and dilating the passage thus liberated with sponge tents. For these purposes, the woman was placed and confined as already described in the first case. It was required to act with great caution in forming the sections and divisions of the contracted and adherent structures. I found it necessary to employ the handle of the scalpel in separating adhesions on the inferior part of the passage, to guard, as far as possible, against wounding the rectum. The vagina was dilated for the operation with the spatula already described. Considerable hemorrhage attended this operation, which, however, was repressed by the free application of ice water. After three months, the operation for the relief of the fistula was performed, and precisely on the plan fully described in the first case. Only three sutures were required in this case, which were found sufficient to close the opening completely. The short, light silver tube, was kept in the urethra as in the first case. In three days, the wires were tightened; and in nine, I was compelled to cut them away, by reason of the ulcerated condition of the textures through which they had been introduced. Little benefit resulted from this operation; and I was satisfied the failure was due entirely to the imperfectly organized condition of the texture entering into the composition of the margins of the fistulous opening, the consequence of sloughing. The border was greatly altered in appearance, as well as changed in elasticity. Indeed, the greater portion of the margin was morbidly indurated, and unyielding. To afford the woman the best chance for relief, I determined not to repeat the operation until the structures should have lost all inflammatory tenderness, and to have regained a quasi normal condition of their acquired organization. After nine months, the operation was repeated, but with no better success than the first. I continued, however, to repeat the operation twice a year, after the second trial, for eight times, and, finally, had to relinquish the case, not, though, without having reduced the opening considerably, and proportionally relieved the woman of her incontinence. I believe this case, nevertheless, could have been cured in process of time, more especially, if sexual intercourse could have been prevented, which intercourse, I have no doubt, defeated several of the operations. I am well convinced, however, that cases like this, in which extensive sloughing had taken place, followed by adhesions, contractions, and indurations of the margins of the fistulous openings, will always prove exceedingly difficult of cure.

The four other cases were treated partly with forceps-needle-ports and metallic sutures, and the straight needle; and partly with curved needles, such as were directed in laceration of the perineum, and the needle forceps

for their introduction. In two of these cases, I employed thread ligatures, but did not find them to answer as well as the metallic, especially, when they became loose, for they could not be tightened. The curved needle is better suited to small fistulous openings; and the cases in which I employed it were of that description. This needle was armed with the compound ligature as for laceration of the perineum. It was then inserted through the fistula into the vesical cavity, the eye extremity being held and directed by the end of the forceps, instead of the side, as directed in laceration of the perineum. After having entered the cavity of the bladder, the point was directed to the floor, on the left side of the opening, fully eight lines from its border, and pressed through the vesico-vaginal wall, until its point appeared on the vaginal surface. The point was now taken hold of with the dressing-forceps, and drawn downwards,—the forceps holding the eye being released simultaneously,—and with it, the compound ligature, until the metallic thread had been drawn through one-third of its whole length. The wire was now separated from the loop of the thread portion of the ligature, and its other extremity connected with the loop. Thus armed, the needle was carried through the opposite border, at a like distance from its edge with the ligature, so as to form one suture. In this manner, as many sutures were introduced as became necessary to close the opening, whether metallic, thread, or silken ligatures were employed. When thread or silken ligatures were used, they were, of course, to be tied, and I invariably formed the surgeon's knot. In one of these cases, a troublesome fistulous opening followed the operation with the metallic ligatures, in consequence of permitting the wire to remain in until the parts had healed around it. This operation fistula was very small, but served to produce nearly as troublesome consequences in the way of inconvenience, as the original fistula. It was finally connected by repeatedly touching the seat of it with *nitras argenti*.

I am decidedly of the opinion, that every case of vesico-vaginal fistula can be cured, and my success justifies the statement.

Art. VII.—*Case of Doubtful Sex.* By S. H. HARRIS, M. D., of Clarksville, Va.

THE existence of hermaphrodites, or those creatures which were at one time supposed to unite in the same individual the distinctive organs of the two sexes, is now, I believe, wholly denied by physiologists. Creatures of our race, however, have frequently been noticed, presenting such equivocal appearances in their sexual apparatus as to render it exceedingly