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Kolpoecpetasis *versus* Partial Kolpokleisis

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KOLPOECPETASIS VERSUS PARTIAL KOLPO-KLEISIS.

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New York.

THE word kolpoecpetasis, derived from the Greek κόλπος, vagina, and ἐκπετάννυμι, to stretch out, is, so far as I know, now used for the first time. It seems to be called for to define the treatment proper for stenosis, and atresia of the vagina, and to elevate to its true dignity a line of practice not yet assigned a distinct place in the ordinary classifications of operations by surgical and gynecological writers. The value of this practice I think I was the first to demonstrate successfully, but it has not yet received from the profession the consideration it deserves. It is intended to use the word in a sense antithetical to that of *transverse obliteration* of the vagina (*die quere Obliteration der Scheide*), a term first employed by the late Prof. Gustav Simon,[1] to designate the conversion of an acquired stenosis, in the urethral portion of the vagina, into a surgical atresia as he regarded it; a justifiable procedure, when a urinary fistule coexisted above this lesion, and could not be reached for successful treatment. By this means the remnants of the bladder and the upper part of the vagina are converted into a common receptacle for the urine and menstrual blood, with the urethra serving as a common outlet for both secretions. Some time afterwards the same surgeon extended the practice, under the designation of complete or partial kolpokleisis (κόλπος, vagina, and κλείω, to shut up), to the establishment of a line of surgical atresia, running transversely or obliquely between the healthy, diseased, or distorted walls of the vagina at any point below, or on one

[1] *Deutsche Klinik*, No. 33, 1856.

or the other side of the fistule, when the latter was found to be incurable from excessive loss of tissue or from any complication believed to be otherwise insurmountable, with precisely the same results as regards the urine and menstrual blood. The sole advantage claimed for the latter method over the former was the greater preservation of the sexual function.

There is no evidence that Professor Simon ever extended this practice to the management of supposed incurable fecal fistules involving the vagina, by which the cavity of the uterus and upper part of the vagina would be converted into diverticula of the rectum with the anus serving as a common outlet for the feces and menstrual blood.

The objections to all three of the last named expedients for the relief of incontinence of urine and feces are the resulting vaginitis, endometritis, metritis, ovaritis, cellulitis, peritonitis, cystitis, nephritis, calculi, nervous complications of the severest character, partial or complete destruction of the sexual and procreative functions, and death in nearly all if not all cases within from five to fifteen years. All of these results I have myself witnessed in a more or less marked degree, and no doubt other surgeons have also, if a fair and conscientious report of their experiences could be elicited.

The following case of *vaginal stenosis with a recto-utero-vaginal fistule* will show practically what is meant by the terms partial *kolpokleisis* and *kolpoecpetasis*, and at the same time illustrate, in the most striking manner possible, how the attempt was made by the former method to effect the blending of the normal and abnormal secretions of the uterus with the excrements of the rectum, as above indicated, leaving the inter-communicating fistule untouched and concealed, but which failed completely; and how the attempt was made by the latter method to reach the inter-communicating fistule, close it and maintain intact the functions of all the organs involved, which succeeded perfectly.

Mrs. —, of foreign birth, aged 29, a widow, below medium stature, but well formed and apparently in good health, consulted me,

August 12, 1871, with regard to a fistulous communication between the rectum and vagina, which, she stated, had existed about thirteen years. She married at fifteen, and at the end of nine months was delivered, at full term, of a still-born, though large and well developed, child. Labor lasted sixty hours. No instruments were employed. Twelve or fourteen days after the completion of labor feces and flatus began to pass *per vaginam*, and had continued to do so up to the time of my examination, though far less freely then than at the outset. Her husband died soon after her confinement, and she again married. Soon after her second marriage, and before coming to the United States, her husband took her to Edinburgh and other European capitals, in order to secure the best medical advice with regard to her condition, but nothing was there attempted for her relief. Abandoning the idea of ever getting well, she came with her husband to this country, first settled in a little village near New York, and afterwards came to the city, where she at present resides.

During the first six years following her second marriage she had five early miscarriages, and one at seven months, the latter occurring after her arrival in New York. At this premature labor, strange as it may seem, the forceps had to be used, doubtless on account of her acquired vaginal stenosis, and the result was the production of a *urethro-vaginal* fistule near the neck of the bladder. The fecal, now supplemented by a urinary fistule, served to render her position deplorable in the highest degree. To the last misfortune was added that of the death of her second husband, which with her existing nervous complications and mental depression, reduced her to a state closely bordering on insanity. But, notwithstanding all this, she resolved to seek relief, though among strangers and in a foreign land. She fortunately fell into the hands of a surgeon who carefully investigated her case and pointed out to her its difficulties. He frankly told her he had had no experience himself in the treatment of such cases, but that if she would trust to his judgment he would put her in the way of obtaining the best advice to be had in our country. The result was that he accompanied her to an eminent surgeon in New York, in whom he placed the highest confidence. The latter made an examination, and, promptly recognizing the difficulty, proceeded, after a few days, to close the *urethro-vaginal fistule*, and the operation was completely successful. He next proposed to close the fecal fistule, but in this he utterly failed

after his best directed efforts; the fistule and the general condition of the patient remaining about the same as before his operation.

The procedure adopted, as will appear further on, was an attempt with the interrupted silver suture to unite the anterior lip of the cervix uteri to the margin of a thick column of cicatricial tissue, the seat of stenosis, which stretched across the rectal wall, just below the cervix and the fistulous opening. The result of the operation was a complete failure, from the cutting out of the central sutures from the anterior lip of the cervix uteri. The vaginal orifice of the fistule was close behind this column of cicatricial tissue, and consequently cut off from view, like a small object placed on the opposite side and near a wall of equal height with the observer. In addition to this the uterus was slightly anteverted, thus favoring the easy approximation and union of the parts above named.

The success of such an operation would have constituted what is called by Professor Simon, partial kolpokleisis. It is true the vaginal tract would have been in great part preserved, and the sexual fitness of the organ only slightly interfered with, but the objections to all this would have been unnatural menstruation through the rectum, loss of the procreative faculty, and development of a train of sequences, disastrous to health and happiness, and, sooner or later, to life.

With the failure of this operation, whether properly conceived and executed or not, both the patient and her family physician lost confidence in the attending surgeon. The result was that nothing further was attempted by the latter, and matters remained *in statu quo* for several years. During this interval, however, small pelvic abscesses, situated to the left of the cervix uteri, occasionally formed and discharged into the vagina. They came usually as a result of exposure to cold and of unusual mental excitement.

After waiting several years, the family physician again recommended to the patient another surgeon, whom he believed to have had more experience in such cases than the first. He did this with a view, as he stated, of learning what the chances were regarding another operation.

A thorough examination of the case was made by this surgeon, and he expressed his belief that the fistule lay so near the fold of the peritoneum in Douglas' *cul de sac* that it would be unsafe

and unwise to attempt to close it by any further operative procedure. He therefore abandoned the case without giving the patient the least encouragement. When the family physician heard the last opinion he became discouraged, and was disposed to cease all further efforts to obtain a cure.

Not so, however, with his heroic patient, who, undaunted by failure and the adverse opinion of the two eminent surgeons referred to, resolved to make a third effort to get cured before resigning herself to hopeless despair. This time, through her own inclination, and the advice of a female friend, she sought my opinion upon her case. Her former medical adviser accompanied her, doing so, however, more as an act of courtesy, as he afterwards told me, than with any expectation of being enlightened upon the difficulties in the case, or being extricated from the responsibilities that he had so unwittingly taken upon himself.

From my personal examination, I have nothing further for the present to add to the description of the injury already given in connection with the operation of the first surgeon whom she consulted. Suffice it to say, the mechanical forces producing the accident, and the accompanying pathological and physiological peculiarities of the structures involved, were the points that first attracted my attention. By a correct appreciation of these, I was led at once, as the result proved, to the only solution of the difficulties presented.

The first indication was to overcome the stenosis of the vagina. By doing that I thought I should be able to bring to view the distant fecal fistule.

The second indication was to close the fistule by attaching its anterior border to the stump of the remaining posterior lip of the cervix uteri, intending thereby to maintain the normal outlet of the menstrual flow, and to preserve the integrity of the sexual and procreative faculties.

The fulfillment of the first indication was by the procedure which I designated at the outset of these remarks, Kolpoecpetasis, in contradistinction to partial Kolpokleisis, the final and only procedure attempted by the surgeon by whom I was preceded. Two or three days after my first examination the patient, by the aid of one assistant, was confined in the knee-chest position upon my supporting chair, anesthetized and operated upon as above indicated. The thick column of cicatricial tissue projecting forward from the rectal wall was divided backwards at three points.

This being completed, intra-vaginal dilatation with cylinders of compressed sponge in oil silk bags was commenced and gradually increased with further incisions, as were from time to time required, until the point of resiliency in the stenosis had been entirely overcome and the fistule brought fairly within reach of operative procedure. This preparatory step of the treatment, thus commenced and carried out, required about six weeks, when the final step for closure of the fistule was undertaken with the button or vaginal suture, and the cure of the case after another week was completed. It is interesting to note, here, that the assistance of only two persons was called for in this final operation; one to hold and hand the instruments, and the other to administer the anesthetic.

The patient, about six months after her cure, married the third time, and soon afterwards accompanied her husband on a visit to the West Indies. There she became pregnant for the seventh time, thus proving the completeness of her cure. Fearing that difficulty might attend her labor, at about the seventh month she returned to New York, in order to have the care of her old family physician. The voyage proving to be a very stormy and rough one, she suffered from sea-sickness most of the time, and, indeed, on her arrival here was so much exhausted that, in a day or two, labor pains supervened and finally resulted in the delivery of a stillborn but well-developed child. No difficulty, however, attended the labor, but slight pelvic metro-peritonitis followed, which finally resulted in the formation and discharge into the vagina of a small abscess from about the same locality as previously described. The little vaginal opening soon closed up, and all was again thought to be right. Not so, however. From that time up to 1877, at irregular intervals, and usually from exposure to cold, a slight cellular inflammation would take place and terminate as usual, in a discharge of pus into the vagina. Not having seen the patient for about three years previous to the date just mentioned, I was now called in on account of the gradually increasing frequency of these little pelvic abscesses, and the development of a train of very troublesome and annoying nervous complications. An examination at this time revealed, first, permanency of the cure of the vaginal stenosis and of the associated rectal fistule; second, shortening of the vagina at least one fourth; third, endometritis with hypertrophy of the cervix uteri and a patulous condition of the external os; and fourth, in-

filtration and hardness of the surrounding tissues, especially to the left side of the cervix uteri and in the corresponding left broad ligament. The orifice of the last abscess was found closed, but a slight depression and redness at a point in the locality indicated was discovered, showing that only temporary obliteration of the sinus existed. The treatment employed was graduated compression made with a column of carbolized cotton, resting upon the pubic arch and perineum and carried upwards in the direction of the affected broad ligament. The column of cotton was constructed with the patient in the knee-chest position, from above downwards, and worn for thirty-six hours. It was then, by means of the cords attached, removed by the patient, — say at bedtime, — and for the next thirty-six hours warm-water vaginal douches were used at convenient intervals. Each introduction of the columns of cotton was preceded by a mop application to the walls of the uterine cavity of carbolic acid (℥ss to ℥i of glycerine) or of Lugol's solution of iodine. Thus was the treatment continued until the vagina was restored to about its normal length; the bleeding had ceased to attend the intra-uterine applications, and the cervix uteri with the external os and surrounding indurated tissues had returned to their normal conditions. No abscess formed during this active treatment of five to six weeks' duration.

After this, in order to keep up systematic pressure, a cylinder of compressed sponge, made as before described, was introduced into the vagina, and the patient instructed to wear it constantly, during the day. Still later, in order to avoid trouble to the patient, one of my globe dilators was substituted for the above. It has now been something over two years since the treatment was commenced, and the patient informs me that there has been no recurrence of an abscess during that period. She derives so much comfort from wearing the dilator, and feels so completely protected by it against the formation of abscesses, that she now insists upon continuing its use, since it gives her little or no inconvenience.

REMARKS.

The report of this case I might close here, and very properly say, from the following considerations, that it was the most interesting of its class that had ever come under my observation: first, the rarity of the lesion; second, the

persistent and determined efforts of the patient to get cured; third, the opinions and operations in the case of three different surgeons, as shown by their diagrams; and fourth, the peculiarities and estimates of the two different methods of treatment actually employed.

1. *Rarity of the Lesion.* I have said this was the most interesting case that had ever passed under my observation. It remains now for me to point out more in detail some of its unique peculiarities, and show why such cases are so rare, or rather, why they so seldom fall under the eyes of the gynecological surgeon. Injuries involving the anterior wall of the cervix uteri under the forms of vesico-utero-vaginal and vesico-utero-cervical fistules, the results of gangrene and laceration, are of very common occurrence, especially the former. This is owing to the greater frequency with which the fetal head presents in the anterior than in the posterior occipital positions, and the greater liability which it has to receive undue pressure from the pubic arch than from the surface of the sacrum, in protracted or preternatural labors. As a compensation for this frequency, however, the lesions are in like proportion less grave than those resulting from the occipito-posterior positions. This is due to the remoteness of the anterior reflexion or duplicature of the peritoneum as compared with that of the posterior; the one is seldom implicated, whereas the other is always involved. It will be recollected that the peritoneum on the anterior aspect of the uterus does not descend nearer to the vaginal attachment than twelve or fifteen lines, and that in this space the bladder holds precisely the same relationship to the anterior wall of the cervix uteri that it does to the anterior wall of the vagina, down to the commencement of the urethra. An injury, therefore, involving the cervix uteri laterally, bilaterally, anteriorly, or posteriorly may be limited to the infra-vaginal portion alone, constituting the simple notch or fissure to which, nowadays, so much importance is attached under the designation of laceration, or it may extend to the vagina and the bladder, constituting *vesico-utero-vaginal fistule*, or

to the bladder alone, constituting *vesico-utero-cervical fistule*, or to the body of the uterus and peritoneum, constituting utero-peritoneal laceration, or *rupture*, as it is usually called. I have, in one case of vesico-utero-cervical fistule situated at the highest point, accidentally opened the vesico-uterine pouch, and then closed the peritoneal aperture with the fistule successfully. This opening, properly speaking, constituted a *vesico-utero-corporeo-cervical fistule.*

The gravity of these several injuries stand in the order named, and the first three are the varieties that so frequently fall under the eyes of the gynecological surgeon. The fourth variety, although of frequent occurrence, is usually seen by the obstetrician and, from its nature, almost always terminates fatally within a few hours or days from shock, hemorrhage, thrombosis, or peritonitis, or all combined, thus leaving no opportunity for operative surgery.

With regard to the posterior wall of the cervix uteri, and the perforating lesion under consideration, the peritoneum not only invests the structure down to the vaginal attachment, but also from one fourth to one third of the corresponding wall of the vagina, constituting the anterior reflexion of Douglas' pouch. From its intimate relationship with the peritoneum, the latter could hardly be expected to escape injury from a cause directed from within outwards, be this the hand of the obstetrician, the pressure of the occiput of the fetal head, a spiculum of bone, or the point of a perforating instrument. A lesion or solution of continuity, therefore, of the posterior wall of the cervix uteri, resulting from any one of the causes just named, is exceedingly liable to also involve the peritoneum in the form of a cut, a puncture, a *gangrenous slough*, or a tear. That the first three forms of injury do often occur and terminate in a spontaneous cure without attracting the attention of the obstetrician does not, I think, admit of a doubt. It is equally certain, on the other hand, that they often occur and are followed by general peritonitis and death, without their existence being suspected by the obstetrician. The fourth variety, rupture of the posterior wall of the body of

the uterus, or utero-peritoneal laceration, like the same injury of the anterior wall, generally terminates fatally, and that very rapidly.

Perforating lesions of the posterior wall of the vagina alone, however, or in connection with the cervix uteri in the three forms first named, may not stop at the anterior peritoneal reflexion of Douglas' space, but extend to the posterior layer as well and even to the anterior and posterior walls of the rectum, thus reaching the hollow of the sacrum. In the first of these extended implications the resulting peritonitis may be limited to the immediate locality of the injury, and there simply terminate in the agglutination of the two sides of the pouch, without even the gravity of the lesion being recognized by the obstetrician; but general peritonitis and a fatal termination under such circumstances would, I think, be the most probable results. In the second extended implication — the anterior wall of the rectum — a favorable termination may also be expected to take place, but this will depend upon a far greater number of favoring circumstances than in the preceding form of injury; namely, a small puncture, a limited peritonitis, a quick agglutination of the sides of Douglas' space, and an empty state of the rectum. With such a combination of fortuitous conditions nature may still complete her handiwork without the unsuspecting obstetrician even knowing what has happened, or what is going on in the several anatomical structures named. On the other hand, a gangrenous slough of the structures and a distended state of the rectum, days, and perhaps weeks after the labor, would seem to doom the patient to inevitable death from the passage of the feces and flatus into the abdominal cavity, and the lighting up there of general peritonitis, a condition of things that may still elude the observation of the most skilled obstetrician, without an autopsy. But so grave an injury and so disastrous a termination as the above does not always necessarily follow, as I am able to show from a careful examination and study of the pathologico-physiological conditions of the structures involved

in the interesting case which forms the basis of these remarks.

The question now arises, What is the explanation, and where is the precedent? The conclusions that I have arrived at with regard to this lesion, and the mechanism by which a fatal issue may be prevented under the circumstances named, are these: starting with undue pressure of the occiput of the child against the sacrum, whether from disproportion in size, impaction, misuse of forceps, or otherwise, it is easy to see that all the soft parts lying between the two hard surfaces are exposed to direct injury, which diminishes in degree from within outwards, and that inflammation follows soon afterwards, running its usual course to the stage of gangrene. The *first* effect, occurring after a few hours or days, is agglutination of the opposing peritoneal surfaces in Douglas' space, to the full extent of the contused parts, and in degree firmer or stronger at the periphery of the space involved than at the centre, because of the pointed convexity of the child's occiput and of the contusion of the soft parts intervening between it and the sacrum. The *second* effect, following closely on the first process and terminating at the end of ten to fifteen days, is gangrene or complete death at the centre of the injured parts, and detachment or separation of the disc or plug, through to the rectal cavity, or even down to the surface of the bone or hollow of the sacrum. In the case before us the gangrenous perforation ended in the rectum, but it is evident enough that the same causes operating from within outwards, and the same protection offered by the conservative provisions of Nature, may in like manner result in complete exposure of the surface of the sacrum. Thus a direct communication between the latter and the vagina, or between it and the canal of the cervix uteri, or between it and both of these soft parts together, may be established, giving a free passage to the feces and flatus through the abnormal outlet of the vulva, without entering the peritoneal cavity, or producing death of the individual. In this last extreme implication of the soft structures it might

be expected that a stricture of the rectum would attend as an additional complication, and form an important feature in the general pathologico-physiological state now supposed to be presented to the gynecological surgeon. With simple penetration or opening of the rectum, however, I do not think stricture of the latter is at all liable to occur. Certainly it did not take place in the case here reported, which is of this variety of injury, and I know of no other case than this now on record from which any inference may be drawn upon this point. I think this is a very important diagnostic feature, not only as regards the two extreme degrees of injury here pointed out, and resulting from a cause acting from within outwards, but also as regards the one of perforation of the posterior wall of the cervix uteri higher up the canal, which usually results, as I believe, from a cause acting from without inwards. In my case the vaginal orifice of the fistulous opening, called by me *recto-utero-vaginal,* the conjoined attachment of the vagina and cervix uteri was involved. While I believe it is possible for a perforation of the posterior cervical wall, alone, to take place higher up, from causes acting from within outwards, as those connected with labor, I have myself never seen an example, nor do I know that any one else has observed it. Perforations, however, of this character arising from causes acting from without inwards have been witnessed and are constantly liable to come under the eye of the surgeon. These causes are pelvic abscesses, and strictures of the rectum, resulting from cancer and syphilis and from the association of exostosis in the hollow of the sacrum with the parturient act.

During my visit to Heidelberg, Germany, in the autumn of 1874, Professor Simon exhibited to me a beautiful specimen of this lesion, preserved in his private collection. He attached great value to it on account of its extreme rarity. It occurred in connection with stricture of the rectum, resulting, if I mistake not, from syphilis. The uterine orifice of the recto-utero-cervical fistule, as I designate the lesion, was situated just above the vaginal attachment.

The late Dr. Peaslee, a short time before his death, encountered a fistulous opening implicating Douglas' pouch, and establishing a communication between the rectum and the cavity of the uterus just above the internal uterine orifice, as the result of a pelvic abscess. His treatment of the lesion was based on a proposal to gradually cut through the tissues intervening between the two organs named, and thus to obliterate the fistulous tract from above downwards, until the uterine and rectal orifices could be brought within the range of knife and sutures. An elastic ligature introduced per rectum and brought out per vaginam, and then tied over a small pad resting over the perineum, was the means employed. The patient, however, died from an intercurrent disease some weeks after the commencement of treatment, and the result, consequently, was only partially successful. Dr. J. E. Janvrin, of New York, who verbally reports the autopsy which he himself made, states that the action of the elastic ligature was most satisfactory, and that the obliteration of the fistulous tract and the cutting of the included tissues by it had reached a point below the internal uterine orifice at the time of death. Thus was proven the practicability, as may be claimed, of converting a *recto-utero-corporeal fistule*, first into a *recto-utero-corporeo-cervical fistule*, and second, into a *recto-utero-cervical fistule*. In the same way, had it not been for the intercurrent misfortune or death of the patient, the latter fistule might in like manner have been changed into a *recto-utero-vaginal fistule* and this then cured by the bloody procedure here described. The classification of recto-uterine fistules here employed is an extension by the author of the one usually recognized and employed by writers, as relates to vaginal fistules.

Scarcely need it be stated that these high-lying recto-uterine fistules, occurring from whatever cause, can only take place through the conservative provisions of nature, previously described, and, furthermore, that they must be treated, if treated at all, in accordance with the plan of the elastic ligature, as employed by Dr. Peaslee, or any other more feasible plan promising the result just stated.

2. *Persistent and determined Efforts of the Patient to get cured.* In olden times, that is, when the operation of vesico-vaginal fistule was in its infancy, and patients submitted to it with the understanding that months and even years might be required to relieve their sufferings, it was not uncommon to meet with instances of extraordinary, yes, I may say miraculous, heroism and endurance, both on the part of the patient and surgeon. Ten, fifteen, twenty, yea, thirty operations, incredible as the statement may now seem, were not infrequent, running continuously through a period sometimes of nearly two thirds of a generation. One case, for example, I recall in my practice in Montgomery, Ala., noted in the early history of vesico-vaginal fistule in this country, which underwent some fifteen operations in the hands of a distinguished operator in the course of four or five years. During this long period of trials and failures the fistule, originally without complication and of no considerable size, was simply closed in the middle, there remaining on either side of the bridge a fistulous orifice. Each of these openings was finally closed by the button suture at a single operation, and the cure thus completed.[1] Another case, equally noted, I will mention, which had undergone repeated trials with a new form of suture in the hands of an eminent surgeon of Philadelphia, presented ten years afterwards for renewal of her treatment, in about the same condition as the above, and was cured by the same method.[2] Still another case in point, I recollect, which underwent six operations by a most distinguished and skillful surgeon, of Boston, within the first two or three years of the existence of the disease, came for further treatment at the end of twenty years, and was cured in like manner (1859). This last patient, during the period she was under treatment in Boston, travelled upwards of six thousand miles, an undertaking itself perfectly appalling, considering the nature of her disease and the fact that the most of this travelling was done over land before railroads had even got to be a con-

[1] Case IV., *Louisville Review*, May, 1856.

[2] Case XIV., *North Am. Med.-Chir. Review*, November, 1857.

venience. The duration of the disease in the case here reported was but about one third less than in the one last referred to, but it occurred long after the operation had been placed upon a broad and enduring basis by the united efforts of the profession. Yet, notwithstanding the fact last mentioned, this patient suffered the torments of her malady thirteen years, and travelled by sea and land, partly over three of the principal divisions of the globe, a distance not much short of twelve thousand miles, before she found relief, at last, in the metropolis of our own country. Now as to the ordeal this patient passed through, in New York, to obtain relief in the face of failure of operations and conflicting opinions, some of the scientific details cannot fail, I think, to interest the members of this Society, especially when the fact is known that the three surgeons connected with the case were all experienced and worthy of the highest confidence as regards judgment and skill.

The patient, after the completion of her cure, produced the opinions of the three surgeons upon the anatomical relationship of the injured parts, and upon the difficulties and dangers of the operation called for, as shown by the diagrams which they had furnished her, — one to prove the danger and uselessness of an attempt at a cure, and two to illustrate the condition of the parts and the difficulties to be overcome after their operations were performed.

These diagrams she presented to the last surgeon (the writer) after he had finished his treatment, at the end of about seven weeks, remarking at the time that they were of no farther use to her, and that she hoped they might be of benefit to others afflicted as she had been.

The writer himself, knowing no better use to which these diagrams can be applied, has concluded to publish them with these remarks, and for this purpose he has embodied them all in one figure as relates especially to the uterus, the diagnosis of its position, and the mode of dealing with the lesion involving the posterior lip of the cervix and the neighboring recto-vaginal wall. The outlines of each are faithfully reproduced under the designations of

1st, 2d, and 3d surgeon. The first two are in dotted lines, and the third (that of the author) in solid lines, each holding its own relationship to the entirety of the remaining parts of the figure. From the scientific interest centering in each of these three views placed in such close juxtaposition, the writer feels assured that they cannot fail to prove of practical value, and that he will be pardoned by the

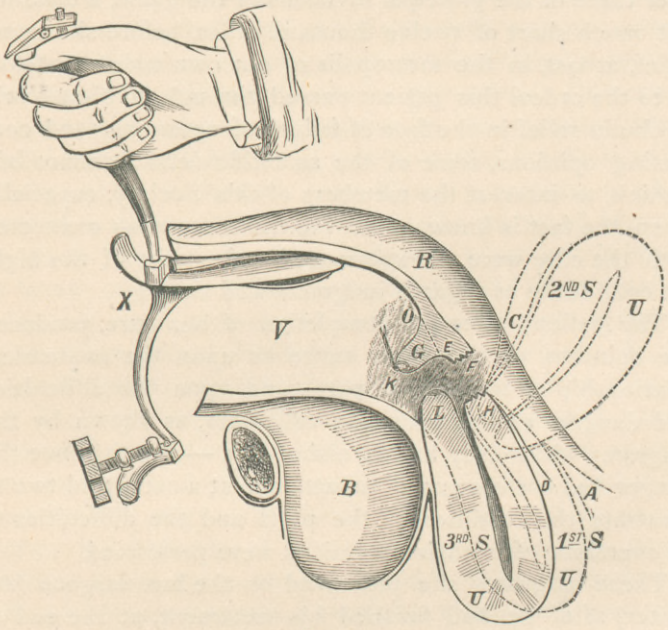

FIG. 1.

other two surgeons, who preceded him in the case, for the liberty he has taken of thus treating the subject.

3. *The Opinions and Operations in the Case, of three different Surgeons, as shown by their Diagrams.* To Fig. 1 (lateral view) attention is first called, to three positions of the uterus, U U U, in the knee-chest position with the three-bladed dilating and partially self-retaining speculum X introduced in order to show their anatomical relationship to the vagina, rectum, and bladder, V R B, and to the fistule F, shut off from view by the stenosis or column of cicatri-

cial tissue, E G. The cicatricial mass forming the stenosis is seen in this position of the patient, projecting downwards from the recto-vaginal septum E O, which constitutes the first and main obstacle to successful treatment. The wavy and obliquely running and crossing lines K are intended to represent cicatricial tissue and its extension from the point of stenosis upon the left lateral wall of the vagina. The first surgeon, with the patient in the left prone position and the duckbill speculum, saw the uterus U in this relationship to the fistule F, and to the column of cicatricial tissue, E G. Three modes of treatment presented themselves for the reparation of the injury and the relief of the patient:—

(1.) *Immediate preparatory treatment.* This consisted in deep incisions or complete divisions of the column of cicatricial tissue, E G, and the immediate dilation of the posterior and lateral walls of the vagina with the fingers or otherwise down to the level of the dotted line E O. But this was not possible, however deep the incisions or great the force employed to dilate, owing to the thickness and unyielding character of the morbid structures. Even if it had been possible to overcome the stenosis by such a procedure, or the modification of it, — the complete extirpation of the cicatricial mass obstructing the view of the fistule, — then the two sides of the fistule E H could not have been drawn together; and, if drawn together, could not have been held in this relationship by any known form of suture, sufficiently long for union to have taken place. Besides, there is no evidence that this procedure was thought of as a means of displaying the fistule and uniting its edges.

(2.) *Gradual preparatory treatment.* This consisted in deep incisions in the same morbid structures, with the patient in the knee-chest position, and afterwards in gradual dilation of the entire vaginal tract with cylinders of graded sizes, made either of compressed sponge covered with oiled silk, or of hard rubber, or of aluminum, or of glass, or of any other unyielding material, the principle being that of kolpoecpetasis described at the outset of these remarks. There is no evidence that even this preliminary treatment

was attempted; but, even if it had been employed to the fullest extent required, and by the means above indicated, the simple interrupted silver suture advocated by this surgeon, or any other form of interrupted suture, would not have held the sides of the fistule together long enough for union to take place. The heavy drag of the uterus upon the central sutures would have caused them to cut through and have led to the reproduction of the fistule.

(3.) *Direct treatment.* This was the procedure adopted, as would naturally be supposed by any one not having confidence in the previous resources pointed out, namely, immediate and gradual preparatory treatment with the simple interrupted suture. This procedure, without regard to the necessity of overcoming the pathological abnormity of the parts involved, had for its object union *in situ* — the attachment of the top of the column of cicatricial tissue, G, on the one hand, to the anterior lip of the cervix uteri, L, on the other. In short, it was partial kolpokleisis, and it contemplated no interference with the fistule itself, but the establishment through it of utero-rectal menstruation with loss of the procreative faculty.

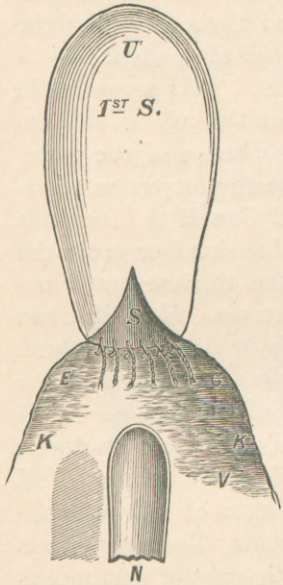

FIG. 2.

Fig. 2 shows completion of the operation. In this view (recumbent position) the anterior vaginal wall is supposed to be laid open up to its uterine attachment, and the observer to be looking from before backwards upon the recto-vaginal septum and the anterior wall of the uterus with the duck bill speculum N in position. S shows the line of adjusted sutures, holding the anterior lip of the cervix uteri in contact with the margin of the vaginal stenosis. E G indicates the base of the stenosis and the degree of con-

traction of the calibre of the vagina. K K point to the extension downwards upon the recto-vaginal septum of the cicatricial tissue. Directly behind the line of sutures, now cut off from view, is situated the unclosed fistule, or concealed passage between the rectum and the cavity of the uterus and upper part of the vagina.

This operation would seem easy enough to do, but simple as it may appear, owing to the defectiveness of the form of suture employed, it utterly failed, leaving the patient in the same condition as before it was performed. The central ones cut out from the anterior lip of the cervix uteri, as shown by one of them (silver wire) left imbedded in the top of the column of cicatricial tissue at G, Fig. 1. Here ended the connection which the first surgeon had with the case.

The second surgeon, with the patient also in the left lateral prone position, and with the use of the duck bill speculum, saw the uterus (U, Fig. 1) in the strongly retroflexed position. The axis of the organ forms an angle with that indicated by the first surgeon's position of about one hundred degrees. Here is a marked difference and mistake in diagnosis. The posterior lip of the cervix uteri H was not supposed by this surgeon to have been injured, as shown by his smooth and rounded representation of it; nor even Douglas' pouch C, or, if injured, only to a very slight extent. Here were two other important differences or mistakes in diagnosis. As this surgeon attempted no procedure to relieve the patient, nor left any evidences of what he believed he could do under the circumstances, the presumption is that he regarded the case as hopelessly incurable.

The third surgeon (the author) with the patient fixed in the knee-chest position, and with his three-bladed dilating and partially self-retaining speculum, saw the uterus U, Fig. 1, in almost precisely the same relationship to the other anatomical parts as has already been pointed out in connection with the views of the first surgeon. The difference in the two positions of the uterus is so slight as to be

of no consequence as regards diagnosis and treatment. The fistulous opening F, the column of cicatricial tissue E G, the injury of the posterior lip of the cervix uteri H, and of Douglas' pouch A and D, for all practical considerations are alike, as the solid lines contrasted with the dotted lines, denoting the two positions of the uterus, plainly show. The chief differences are to be found in the treatment and results, and these are about as great as it is possible to find in one and the same case. The third surgeon, regarding immediate preparatory treatment as waste of time, and an

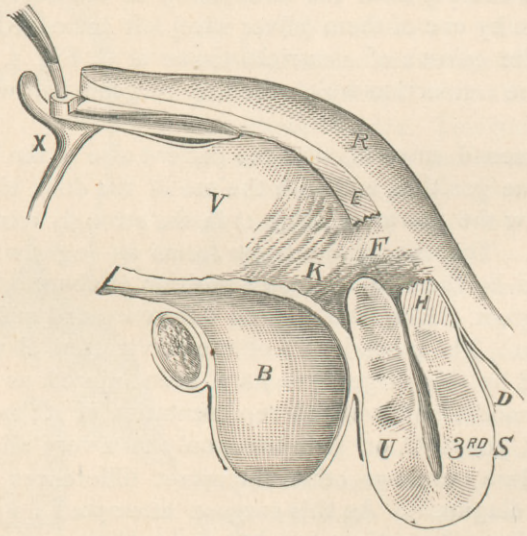

FIG. 3.

unnecessary infliction of pain upon the patient, and believing the direct procedure unsurgical and unwarranted, adopted his usual course of *gradual preparatory treatment — gradual approaches or kolpoecpetasis*, as he now designates it. He does not deem it necessary here to enter upon a fuller description of this preparatory procedure, believing from what has already been said in connection with the subject in the commencement of these remarks, that a sufficient understanding of it has been conveyed. Suffice it to say, this step of the treatment was completed in about six

weeks, as before stated, and the parts brought into the condition illustrated by Fig. 3, with the dilating speculum, X, in position. The striking changes observed here in the picture are the disappearance of the vaginal stenosis or column of cicatricial tissue, the almost complete effacement of cicatricial wrinkles, as at K, the elongation and general widening out of the entire vaginal tract, the enlargement of the fistule, and the evenness of its opposing borders, E H, and lastly, the slight movement backwards of the uterus to a more favorable position. The mode of closing the fistule after the refreshment of its borders, and of maintaining the coaption of the same, with the button or vaginal suture, is shown by Fig. 4, with the dilating speculum, X, still in

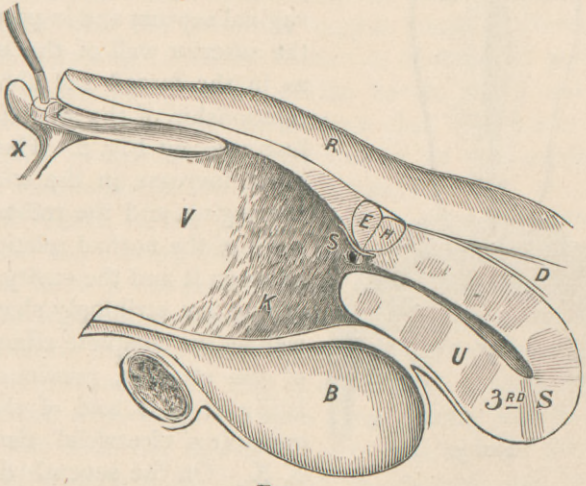

FIG. 4.

position. The widely separated borders of the chasm are here seen drawn together and included in the loop of the central suture. The two ends of the latter traverse together the hole in the button or leaden plate, and are secured by the compression upon them of a shot, as at S. Five sutures were required and thus secured. Again the uterus is seen in this view carried still further backwards, owing to the great traction made upon it and the depres-

sion consequently effected to place it in contact with the somewhat stiff anterior border of the fistule. From this forced relationship of the parts, the extreme tension upon the sutures may be readily inferred, and the necessity seen of a special form of suture that will not cut out until the union between the parts has had time to become firm.

Fig. 5 illustrates the posterior half of a transverse section of the uterus and vagina with the button suture, S, in position. X X, blades of the dilating speculum. Again the observer is supposed to be looking from before backwards, upon a complete posterior section of the vagina and uterus, and not in part upon the vesico-vaginal septum and in part upon the anterior wall of the uterus, as in the forced and abnormal relationship of the structures illustrated by Fig. 2. Here the great increase in the width of the vagina, and the reëstablishment of the normal relationship between it and the cavity of the uterus, are strikingly shown, as well as the complete effacement of the stenosis, previously existing at E G, and of the outspreading cicatricial tissue at K K. On the seventh day the suture apparatus was removed, and union between the borders of the fistule was found complete, excepting a small notch in the anterior caused by the cutting of the central suture. After a few days, however, the latter closed up, and the patient was discharged cured.

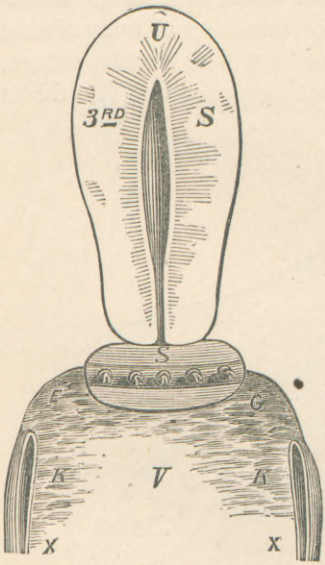

FIG. 5.

4. *The Peculiarities and Estimates of the Result of the two Operations.* In addition to what has already been said upon these points, it is only necessary to repeat here that the striking peculiarities of the two operations in the case

are to be found in the modes of displaying the lesion, of attaching the broken vaginal wall to the cervix uteri, in the forms of suture employed, and in the final results. By the first procedure, union with the simple interrupted silver suture between the top of the high projecting column of cicatricial tissue and the anterior lip of the cervix uteri was attempted and failed utterly. The result would have been, had the operation been successful, to cover up, or hide away, the fistulous opening thus proven to be incurable, and to establish a concealed or sub-cicatricial passage between the vagina and the cavity of the uterus, on the one hand, and the rectum on the other, with the anus serving as a common outlet for the feces and catamenia. By the second procedure, union after complete kolpoecpetasis was attempted with the button or vaginal suture between the directly opposing anterior border of the fistule and the stump of the posterior lip of the cervix uteri, and succeeded perfectly. The result was that the fistule was completely closed, and the functions of all the organs involved maintained in the normal condition.

With regard to the estimates of these two results, in whatever way viewed, there can be but one opinion, namely, that the latter is the superior, and that it shows the highest possible degree of success to which conservative and reparative surgery in this class of operations can be possibly carried. A comparison of Figs. 2 and 5 is alone sufficient to satisfy the most skeptical upon these points, and to convince him that the results actually obtained by the two plans of treatment as illustrated is referable, not to the difference in skill of the operators, but to the difference in methods of operating.

The author, in his study of the subject, has reached the following conclusions : —

1. That a perforating lesion through Douglas' pouch, as a result of difficult or preternatural labor, by which a communication is established between the rectum on the one hand, and the vagina and canal of the cervix uteri on the other, — recto-utero-vaginal fistule, — although occurring

oftener than is generally supposed, seldom comes under the observation of gynecological surgeons, because the lesion nearly always terminates fatally within a few days or weeks, or before its existence is suspected.

2. That obstetricians have not hitherto given the attention to the lesion its importance deserves; and that they, in all cases terminating fatally, under the circumstances mentioned and where the privilege of autopsies can be secured, should closely scrutinize the structures named in order to determine accurately the extent of the implications and the relative frequency of the lesion, as compared with those involving the anterior wall of the cervix uteri and the bladder.

3. That the cause of the lesion is pressure of the child's head above the sacro-sciatic ligament, while it is in one of the occipito-posterior positions, more often in the left than the right, and that to avoid the lesion early descent of the occipital, and ascent of the frontal portions of the head, or change of the latter into one of the occipito-anterior positions must be encouraged or brought about.

4. That the lesion, when it does occur and is recognized soon after labor, will always be found to implicate more extensively the mucous membrane of the vagina and cervical canal than that of the rectum, because the pressure of the child's occiput directed from within outwards is greater and more extensive upon the former structure, and consequently more destructive than the pressure of the impinging point of the sacrum directed from without inwards upon the latter.

5. That the lesion, when it does come under the observation of the gynecological surgeon, will be found almost if not always complicated in the immediate vicinity with stenosis of the vagina, and that it will be partially or completely shut off from view by the latter, the ruling obstacle to a clear diagnosis and the main barrier to successful treatment.

6. That in no class of the lesions incident to parturition is more judgment and more discretion of the surgeon required in his estimate of the difficulties and dangers at-

tending its treatment; and that from no class of operations, when successful in the wide range of surgical science, is there to be seen a clearer proof of true conservatism than in the one under discussion.

7. That the avoidance of kolpokleisis, of any form whatsoever, in the treatment of the lesion in question, as well as in the treatment of any of the injuries incident to parturition, is the highest aim of surgical skill and science; and that the resort to the expedient here, as in other similar efforts to ameliorate suffering without curing the existing disease, is a direct acknowledgment of the defectiveness of the resources of gynecological and surgical art, and when successful proves fatal through the development of uncontrollable sequences in from five to fifteen years.

8. That in the treatment of the lesion, gradual preparation, including incisions and dilatation — kolpoecpetasis — carried to the extent of overcoming resiliency, or of softening and modifying the accompanying cicatricial obstructions, must be instituted to insure full expansion of the vagina and smooth coaptation of the opposing borders of the fistule; and that the borders of the fistule, at best, when left to themselves will promptly obey the law of recontraction or displacement, as the distending or dilating force is withdrawn, like the ends of a fractured bone left without support and under the play of uncontrolled muscular contraction.

9. That in the treatment of the lesion, the knee-chest position is the one above all others from which the greatest number of advantages is derived, as regards relaxation of the abdominal muscles, gravitation forwards of the abdominal and pelvic viscera, natural relationship of the affected parts, direct rays of light, and adaptability for the use of instruments; and that fixation and anesthesia of the patient upon a suitably constructed support or chair are essential to the fullest realization of the advantages named.

10. That in the treatment of the lesion, intra-vaginal dilatation, gradually increased to a point far beyond the limits of vulvo-vaginal dilatation, at which the power of the pa-

tient's endurance ceases, is the form *par excellence* to be employed; and that to accomplish this nothing can take the place of small pieces of coarse sponge, compressed in bags of suitable size made of oil silk or *taffetas de soie*. The cylinders of compressed sponge, thus formed, are to be removed and cleansed, or renewed, once a day, with the same attention to warm water vaginal douches and to applications of a sixty grain solution of nitrate of silver to all excoriated or incised surfaces.

11. That in the treatment of the lesion, long, narrow, dilating, lateral blades, and a short, movable perineal elevator, are the means from which the greatest limit of transverse vulvo-vaginal dilatation and the largest amount of light are to be secured with the least obstruction in the field of operation; and that a speculum combining these elements and having a self-sustaining action by virtue of the flaring expansion of the lateral blades, with a system of leverage which gives increased power with increased resistance, as claimed for the instrument here illustrated, is far preferable to any system of separate or detached blades held by assistants, since the surgeon with this instrument can easily develop or put on the stretch any resisting cicatricial tissue, wherever and whenever found in the vaginal tract, by simply turning the thumb-screw. With the same delicacy and certainty of touch he is able to explore with the finger and make his incisions, whether for overcoming resistance in the process of kolpoecpetasis or for obtaining smooth and even refreshments of the borders of the fistule.

12. That in the treatment of the lesion, the borders of the fistule, when refreshed and drawn together with the proper number of silver wires, require to be held in the same stretched and even relationship as at the instant of ceasing the dilatation and commencing the operation, and that to accomplish this, and guard against subsequent recontraction of the vaginal tract at the seat of the old stenosis, the great obstacle to primary and permanent union between the edges of the fistule, it is necessary to supplement the sutures with a vaginal splint of sheet lead of suitable shape

and length, having a row of holes along its centre, equal in number to that of the sutures. This splint, on receiving the doubled ends of the several sutures through its row of holes, is to be slid down upon them to its place over the coaptated edges of the fistule, and then secured; the latter being done by the compression of a perforated shot upon each of the doubled sutures in succession, while under the required traction. The apparatus thus formed and ad justed is the button, or splint suture as it may more properly be designated. The indications fulfilled by it are these: *a*, permanent maintenance of the borders of the fistule in a stretched and smooth relationship during the healing process; *b*, fixation by the sutures of the borders of the fistule to the under surface of the button or splint in short and regular divisions; *c*, uniform support of both borders of the fistule in each division of the splint, by which is preserved free circulation of the blood and nutrition in the parts otherwise liable to be cut off or impaired by the intensity of the retractive forces; *d*, diminution of direct traction upon each suture to the extent of at least twenty-five per cent.; *e*, control of all motions in the included borders of the fistule, on the principle of well adjusted splints and bandages to a fractured bone after the limb is reduced to its proper length; *f*, exclusion from the entire line of the coaptated edges of the fistule of all extraneous influences, atmospheric as well as those of vaginal and uterine secretions.

13. That any case afflicted as the one here reported is better off to remain as it is, if it cannot be cured on the basis of preserving the functions of the organs involved; and that it is possible through attention to cleanliness and employment of a suitable vaginal obturator to protract life longer and to ameliorate the sufferings of the individual more than by any bloody procedure which simply covers up or hides away the lesion to be followed in due course of time by dangerous sequences, and they, in their turn, by long suffering and finally by death.