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TREATMENT OF PAINFUL MENSTRUATION AND STERILITY FROM FLEXION.

GENTLEMEN: While our patient is getting her ether in the waiting-room, let me give you her history. It is a history which will soon be to you as familiar as household words, whether you practise in cities or at cross-roads. She is a young woman who has been married eight years; but she has never conceived, and since puberty has suffered from very painful menstruation. Since her marriage, her periods, as is usual in such cases, have been getting more and more painful. At present, not only are they unbearable, needing large doses of opium, but she is yearning to become a mother.

Now, what lesions shall we probably discover in this case? Ten to one, a womb bent forward on itself, and a narrow uterine canal. True, the displacement may turn out to be a retroflexion, but this is a lesion almost peculiar to the childbearing womb, while anteflexion is the natural condition of the nulliparous womb. Here, let me disabuse your minds of a prevalent error, viz., that anteflexion in itself is a pathological condition. Many text-books speak of this flexion as a lesion, and

exhibit many forms of pessaries devised to rectify this so-called displacement. But in the great majority of cases neither anteflexion, nor, for the matter of that, anteversion, is pathological. In almost every unmarried or barren woman you will find the womb either bent forward or tilted forward, and resting on the bladder; for this in varying degrees is its natural position. The mistake made, is in attributing to this natural position of the womb the various forms of pelvic trouble, especially that of irritability of the bladder, to which women are so liable. But the kinship between the brain and bladder is a remarkably close one. This has lately been studied by two Italian physiologists, Mosso and Pellacani, who go so far as to contend that "every mental act in man is accompanied by a contraction of the bladder." The irritability of the bladder is then one of the first symptoms of loss of nerve control. Everybody is liable to it. You, on examination day, will be annoyed by it. Many a lawyer before pleading an important case, and many a clergyman just before delivering a discourse, is compelled from sheer nervousness to empty the bladder. So it is with the lower animals, which, when frightened, micturate involuntarily. A nervous bladder is then one of the earliest phenomena of nervousness. Now, a hysterical girl, or a woman whose nervous system has collapsed under the strain of domestic cares, consults a physician for such symptoms of nerve prostration as wakefulness, utter weariness, a bearing down feeling, backache, and perhaps, above all, an irritable bladder. Upon making a digital examination, he, of course, finds the fundus of the womb resting on the bladder, and at once jumps to the conclusion that the whole trouble is due to the pressure of the womb on the bladder, viz., to the existing anteflexion or to the anteversion, as the case may be. He now makes local applications and racks his brain to

adapt or to devise some pessary capable of overcoming the supposed difficulty, forgetting that the upward, or shoring, pressure of the pessary on the bladder must be greater than the corresponding downward, or gravity, pressure of the womb. There is, in fact, no pessary but the dangerous stem-pessary which can meet the end without pressing upon a fold, or double thickness, of the bladder. But, very fortunately, anteflexion is not often pathological. It is certainly not pathological in the foregoing instances; for the symptoms, especially the vesical ones, are not due to the pressure of the womb upon the bladder, but to sheer nervousness, or nerve prostration, which is the thing to be treated, and not the womb. There are exceptions to this rule, but not many; for instance, a womb, heavy from subinvolution or from the presence of a fibroid, may make uncomfortable pressure on the bladder.

If anteflexion is the natural position and condition of the womb, when is it pathological? It is pathological whenever it is the cause of dysmenorrhœa or of sterility. Usually dysmenorrhœa and sterility are associated, but occasionally the latter is the only symptom; for it is evident that the crooked womb can more readily expel fluid contained within it, than admit a fluid outside of it. The phenomena of a typical case of dysmenorrhœa from anteflexion or from retroflexion, are as follows: At the outset of menstruation, the first few drops are somewhat painful. The pain then increases in severity until, reaching its acme, a slight gush of menstrual fluid takes place, followed by a lull in the sufferings. The pain then gradually increases until it culminates in another gush. The meaning of this is, that the bend in the womb imprisons the menstrual fluid, which goes on collecting in the cavity until the swelling up of the womb straightens out the bent portion, dilates the narrow canal, and allows the pent-up contents to

escape, just as the coils of a hose first swell and then straighten out before the water can flow through them. Relief from pain lasts until the fluid begins again to collect. This is called stenosis from angulation.

Sometimes a girl has little or no pain at her menstrual periods. She marries, does not conceive, and by and by dysmenorrhœa sets in, which goes on increasing. What is the explanation of this? It means that the flexed canal of the womb was originally just large enough to permit the slow escape of the menstrual fluid; but that the congestions from sexual intercourse have caused a thickening of the lining membrane of this canal, which has narrowed its calibre. Then again, the uterine efforts to force out the pent-up fluid cause the various tissues of the womb to hypertrophy. We see this also in unmarried women, the dysmenorrhœa increasing with their age. Nature intends that the periodical congestions of the womb should be interrupted by pregnancy and lactation, and without these interruptions the mucous lining of the womb is liable to thicken, and by its thickness to narrow the canal. If then to these menstrual congestions be added the sexual congestions of marriage, this hypertrophy is greatly increased, and the barren wife suffers more than the old maid.

But here comes our patient. Let me examine her. Sure enough, she has an anteflexion, for through the anterior wall of the vagina I feel the body of the womb resting upon the bladder. The cervix is long and conical; the os externum very small.

I pass the sound. It stops, as you see, at the internal os,—viz., at the beginning of the bend,—and I cannot coax it in any further. By introducing the speculum, and straightening the womb by traction made with a tenaculum, the sound now goes in, but even yet with difficulty. It gives a measurement of nearly three and a half inches, which is a large measurement

for a young woman who has not borne any children. This hypertrophy is owing partly to such repeated congestions as I have just described, and partly to the muscular effort made by the womb to extrude not only the menstrual fluid but its mucous secretions.

Now, what is the remedy for this condition? For a number of years the operation most in vogue was the cutting, or bloody operation of Sims. By it the canal is enlarged by incisions. But the objections to this plan are: that it is a dangerous operation, having caused the death of many patients through peritonitis; that it is not a very successful operation, as the incisions are liable to heal up and the dysmenorrhœa to return; and, finally, that it always deforms the cervix, and sometimes causes lesions analogous to those resulting from a natural laceration during labor. I shall not, therefore, burden you with the details of this operation, which fortunately is falling into disuse. Then again the cervix is, at the present day, often dilated by tents or by graduated bougies; but the former is dangerous, and both are painful, tedious, and unsatisfactory.

The operation which I can recommend to you most highly, and one which I shall now perform on our patient, is that of forcible dilatation. The instruments which I use are two modified Ellinger dilators of different sizes, made under my supervision by Messrs. J. H. Gemrig & Son, of this city. Ellinger's model is the best on account of the parallel action of the blades, which dilate the whole track of the canal uniformly. The smaller of these dilators has slender blades, and it pilots the way for the other, which is more powerful, having blades that do not feather. The lighter instrument needs only a ratchet in the handles, but the stronger one should have a screw by which the handles are brought together. Lest the beak should hit the fundus uteri and seriously injure it when these instruments are opened, their blades

are made no longer than two inches, and are armed with a shoulder which prevents further penetration. The larger instrument opens to an outside width of one and a half inches, and its blades are roughened, or corrugated, by shallow grooves in order to keep them from slipping out. This dilator has also a graduated arc in the handles by which the divergence of the blades can be read off.

In a case of dysmenorrhœa, or in one of sterility from flexion or from stenosis, as in the woman before us, my mode of performing the operation of dilatation is as follows: The patient is thoroughly anæsthetized, and a suppository containing one grain of aqueous extract of opium is slipped into the rectum. She is then turned on her back, and drawn to the edge of the bed, each knee being supported by an assistant. The light must be good, so that the operator can see what he is about. My bivalve speculum being now introduced, the vagina is well swabbed out with a five per cent. solution of carbolic acid. By the aid of a strong uterine tenaculum, the cervix is steadied and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that, when the instrument is closed, it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes' time a cervical canal is tunnelled out which before could not admit the finest probe. Should the os externum be a mere pinhole, or it be too small to admit the beak of the dilator, it is enlarged by the closed blades of a pair of straight scissors, which are introduced with a boring motion. As soon as the cavity of the womb is gained, the handles are gradually brought together, and allowed to stay so for one or two minutes. The small dilator being now withdrawn, the larger one is introduced and the handles are then slowly screwed toward

one another. If the flexion be very marked, this instrument after being withdrawn, should be reintroduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this the operator must take good care not to rotate the womb on its axis, and not to mistake the twist for a reversal of flexion. The ether is now withheld and the dilator kept *in situ* some fifteen minutes, when it is closed, removed, and the vagina well syringed out with the same solution of carbolic acid. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often the flux is precipitated or it is renewed, if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods. Were the case before us a retroflexion, I should, after the dilatation, put in a pessary long enough to span the angle of flexure. This never fails to straighten out the womb, and in time to restore it.

Although this operation looks like rough work when compared with the neat, but most dangerous cutting one, our patient will probably need not more than two suppositories, and she will complain merely of soreness for one or two days. To forestall any tendency to metritis, she will be kept in bed until all tenderness has disappeared. Pain will be met by rectal suppositories of opium, and by large poultices laid over the abdomen. From this operation I have seen only slight pelvic disturbance, but it has always been readily controlled and has not given alarm. In one case of dilatation complicated by a fibroid of the womb, a uterine colic lasted for several days, but it was finally subdued by asafœtida in large doses, and never became inflammatory. Should the temperature rise and symptoms of pelvic inflammation appear, the ice-bag should replace the warm poul-

tice. But I have not yet met with a temperature high enough to need this energetic mode of treatment.

In the great majority of cases I dilate the canal not to the fullest extent of the larger instrument, but, as in the case before us, to one and a quarter inches. Sometimes, in an infantile cervix, which does not readily yield and might give way, the handles are not screwed closer than three-quarters of an inch or an inch; but this is exceptional. Tearing of the cervix has happened in four of my cases; in two from the sudden slipping out of the beak, and in two from sheer stretching. Three of these were unmarried and the cervix in each was split posteriorly, nearly half-way to the vaginal junction. The rent looked exactly like the incision of the cutting, or bloody, operation, but it was only half the length of the latter. As it kept the os externum patulous and could not do any mischief, I did not sew it up. The fourth case was that of a multipara, whose uterine canal had been nearly closed up by applications of silver nitrate, made by her physician with the view of curing what he supposed was an "ulceration of the os," but which was a bilateral laceration. The tissues, rendered cicatricial and brittle by the caustic, were torn by the dilator for about half an inch on the right side. Here the hemorrhage was free enough to need styptic applications and a light tampon. I could have stopped it by wire sutures, but this was not done, as it would have defeated the object of the operation.

For slight dilatations, such as for the office treatment of anteflexions and of stenosis, or for the introduction of the curette, or of the applicator armed with cotton, the more delicate instrument is quite strong enough, and an anæsthetic is not needed. I also use it in women who object to taking ether; but the operation is then very painful and it has to be repeated several times, while the results are by no means so good as when the canal

has been dilated by the larger instrument, and under ether. Occasionally in virgins, in order to save the hymen, I have dispensed with the speculum and have dilated with the more slender instrument, passing it in along my finger; but this cannot always be done, and it is usually unsatisfactory. I was led to this, because on one occasion I was asked to give a certificate of virginity—in other words, to write and sign a paper stating that before the operation the hymen was intact. I also had to do this in the case of an unmarried woman, whose perineum, in spite of lateral cuts, was badly torn in my efforts to deliver with the obstetric forceps a very large fibroid tumor of the womb. When she returned home, the village crones got up such a buzz of scandal, that I had to go to her defence. Sometimes in a very sharply anteflexed womb, the dilator cannot be made to pass the os internum. This difficulty is overcome by first passing in a surgeon's probe, and then, along it as a guide, the dilator.

After a forcible dilatation under ether, the cervical canal rarely returns to its former bent or former narrow condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens, and the exudation provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened, and straightened. Hence for straightening out anteflexed or congenitally retroflexed wombs, and for dilating and shortening the canal in cases of sterility or of dysmenorrhœa arising from stenosis or from a conical cervix, the dilator will be found a most efficient instrument. Sometimes in sharply bent wombs, I put in a stem-pessary immediately after the dilatation. In retroflexions I always put in a pessary long enough to span the angle of the flexion, so as

to straighten the womb, by making pressure on the fundus. To this occasionally a stem-pessary is added.

In its results this operation is not an infallible one. I have thrice been obliged to repeat the dilatation, and would like to do so in several cases did the women permit. In a very few cases I have been forced, as a final resort, to nick a pinhole os externum. But I had not then learned how far I could safely stretch open the uterine canal, and the operation of dilatation was, therefore, not so efficiently performed by me as it is now through a larger and riper experience.

It is not to cases of sterility or of dysmenorrhœa only that rapid dilatation should be limited. As before stated, I use it to stretch open the canal for the admission of the curette and of tents, or for the purpose of making applications to the uterine cavity. In cases needing irrigation of the uterine cavity, I first dilate the canal with the slender instrument, and introduce the nozzle of the syringe between the separated blades. This gives a free avenue for the escape of the liquid, and robs of its dangers this form of intrauterine medication. I also resort to the dilator in order to explore the womb with the finger. For instance, in a given case of menorrhagia in which a polypus or some other uterine growth is suspected, in order to avoid the delay and the dangers inseparable from the use of tents, I put the woman under an anæsthetic, and, after the rapid dilatation of the cervical canal to the utmost capacity of the instrument,—viz., one and a half inches,—am enabled to pass my finger up to the fundus. This is accomplished either by drawing down and steadying the womb by a volsella forceps fixed on to the anterior lip, or, in thin subjects, by forcing the womb down upon the finger through suprapubic pressure on its fundus. In this way I have, over and over again, at one sitting discovered a uterine growth, twisted it off, and removed it. Usually

in these cases more difficulty has been experienced in removing the polypus or other growth through the narrow canal, than in twisting it off from its uterine attachment. It often has to be wire-drawn before its removal can be effected, and sometimes it will be found needful to enlarge the os uteri by a few nicks. Usually, when the menorrhagia has been free, the cervical tissue is so lax that, after dilatation, the index-finger can penetrate the canal and reach the fundus, but sometimes only its tip can be made to pass the os internum. Yet even this limited degree of penetration is commonly quite enough to decide the presence of an inside growth. If it be not enough, I invariably search for the growth with a small pair of fenestrated forceps, and I have repeatedly seized and removed one, the existence of which was merely suspected. After such operations the uterine cavity and the vagina are thoroughly washed out with a two and a half per cent. solution of carbolic acid.

I am sorry to say that I have not kept full records of all my cases of rapid dilatation. For instance, I have rarely tabulated office cases of dilatation, in which ether was not given. Nor has any note been made of cases in which dilatation was performed under ether for curetting, for digital exploration of the endometrium, or for the removal of uterine growths. I have tabulated merely cases of dysmenorrhœa, in single or in married women. In the married, with but three exceptions, which will be noted in the proper place, painful menstruation was associated with sterility.

Including all the cases of dilatation performed under ether, I must have had nigh three hundred and fifty cases. I have limited myself to these cases because the use of an anæsthetic implies full dilatation—one in which serious injury, if ever, would most likely be sustained. Yet, there has not been a death or a case even

of serious inflammation, in my practice, and the results have been most satisfactory—far more so than when the cutting operation was performed by me.

Let me read to you a brief abstract of the statistics of my cases of dysmenorrhœa: Of single women, there were one hundred cases; of married, one hundred and nineteen; making in all two hundred and nineteen. Of the unmarried, twenty-four were unheard from after the operation, leaving seventy-six from which any data could be obtained. Of these, forty-five cases were virtually cured; twenty-four more or less improved; and seven were not at all improved. Of these seven that were not benefited by the operation, five subsequently had their ovaries removed—one of them by another physician, and four by myself: of the latter, one died. In each one the ovaries had become so changed by cystic or by interstitial degeneration as to make the dysmenorrhœa otherwise incurable. Of the twenty-four improved, there was one on whom oöphorectomy was also performed; for, although the dysmenorrhœa was partly relieved by dilatation, ovarian insanity and menorrhagia were not. The operation was a successful one, and my patient was not only cured of her hemorrhages, but she regained her reason. Out of these cases, the majority, although not wholly cured, were greatly improved. For example, one of them was formerly bedridden during the whole period of her menstrual flux, and had then to take large doses of morphia. She also suffered at those times from hæmatemesis and epistaxis. Since the operation she experiences pain for merely two hours, needs no anodyne, and has lost her ectopic hemorrhages. Her gain in health and flesh has been great. Another one, who was wholly crippled by her sufferings and made nervous by the dread of them, is now a busy nurse. For one hour at every period she suffers acutely, but not enough to overcome her dread

of taking ether and of having a second dilatation performed.

Of those cured, two had Sims's cutting operation performed previously without benefit, and were afterward dilated; three were dilated a second time before a cure could be effected. The word "cured" in some of these cases, does not mean that the women were wholly free from any pain whatever, but that they did not suffer sufficiently either to go to bed or to take any stimulants or anodynes. The history of several cases merits more than a mere allusion. The sufferings of one of my patients at every monthly period had always been great, but while she was at a boarding-school they grew so excruciating as to cause furious delirium at those times. This finally culminated in permanent insanity, with suicidal impulses. While in this condition she was placed in my hands. After rapid dilatation of the cervical canal, the dysmenorrhœa wholly disappeared. The exemption from pain toned down some of her more extravagant delusions, but she did not wholly regain her reason until a few months afterward. She is now free from all menstrual pain, and is in the complete possession of her mental faculties.

A Hebrew lady, whose health had suffered from dreadful dysmenorrhœa, was so greatly improved by one dilatation, that her physician and her friends were amazed at her rapid restoration to health. Not long afterward the doctor asked me to perform the same operation upon another one of his patients, who was, if anything, worse. Her sufferings were so severe that he wrote, "I fear that another period might kill her," and urged an immediate operation. The cervix in this case was conical and very dense. Fearing a tearing of the parts, I screwed the instrument very slowly up to one inch and a quarter, and kept up this amount of dilatation for some twenty minutes. The cervix did not sus-

tain any injury. The canal has since stayed open, and she is free from all menstrual pain. Another case was that of an unmarried lady, sent to me from a distant State, whose sufferings at her periods were so great that morphia, however administered, was not potent enough to allay them, and her nervous system became very much shattered. Finally, at her last monthly, she was compelled to have two physicians in attendance on her, who took turn about in administering chloroform night and day for forty-eight hours. This experience decided them to send her to me. One dilatation of an inch and a quarter wholly cured her.

Of the married, sixty-nine were heard from. Of these, forty-seven were virtually cured, eighteen improved, and four unimproved. Out of these sixty-nine cases, eleven were not in a condition to conceive: four of them from fibroid tumors of the womb, two from destructive applications of silver nitrate to a torn cervix, three from being over forty-one years of age, and one from being a widow. This leaves but fifty-eight capable of conception, and of these, eleven, or about 19 per cent., became pregnant. But the ratio is, in fact, larger, for I know that several of my patients, fearing pregnancy, employed preventive measures after the operation, and I suspected several others of doing the same thing. Then, again, I believe that yet others, who consulted me merely for painful menstruation, have not reported their subsequent pregnancies. For instance, of the eleven cases of pregnancy, five came to my knowledge incidentally and not directly from the ladies themselves. It is not much more than a year ago that I learned, by the merest accident, the subsequent history of a clergyman's wife, whose cervical canal I had dilated six years ago. She had been making up for lost time by giving birth to twins within a year after the operation, and later to several other children. She had been married eight years be-

fore she came to me, and had had her cervical canal dilated by tents and slit up with Peaslee's metrotome by a skilful surgeon.

One word more: While you can expect much from this operation whenever it is performed for dysmenorrhœa caused by flexion or by stenosis, you cannot be so sanguine with regard to its results in sterility. The reason of this is, that sterility associated with dysmenorrhœa often leads to such tissue changes in the womb as in time to make it incapable of forming a nest for the ovum, which, therefore, either escapes or perishes.