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Dilatation of the Cervix Uteri

BY

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BOSTON, MASS.

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DILATATION OF THE CERVIX UTERI FOR THE ARREST OF HEMORRHAGE.

BY G. H. LYMAN, M. D.,

Boston, Mass.

DILATATION of the Cervix Uteri, as a necessary preliminary to various surgical procedures upon that organ, or as a means of diagnosis, had been often noticed to be followed by a more or less complete arrest of metrorrhagia, but until attention was called to this subject by Dr. Sims, in 1869, and still more clearly by Dr. Bantock in 1872,[1] I am not aware that it had been employed or advised as a direct means of treatment.

During the past few years a considerable number of cases of metrorrhagia which had been supposed to originate in various causes and which had been submitted to treatment of different kinds, both surgical and medical, without relief, have fallen into my hands. I propose to give a very concise sketch of different types of these as a text for a few remarks upon the cause and treatment of this most troublesome and common affection.

The first which I give occurred in 1868, the hemorrhage being profuse and even alarming. Dilatation of the cervix employed solely as a means of diagnosis, was in that case followed by such striking relief as to excite especial attention; and as all my subsequent experience has confirmed my own belief in its practical value, I am induced to ask your attention to these statements, with the hope that discussion will elicit some facts from the experience of others, and attract attention anew to the etiology and pathol-

[1] *Obstetr. Trans.*, London, 1873.

ogy of the disease and possibly thereby define somewhat more conclusively its value as a curative measure.

Case I. *May* 28, 1868. — Mrs. N., age 48, has had five children and one miscarriage. The last child was born in 1860 ; was in perfect health until the birth of the fourth child, at which time she thinks she was injured by mismanagement, as she has suffered since from prolapsus, as she supposes, and for which a "sponge pessary" was used. For the past two years she has been under the care of a female physician and treated for "fungous ulceration." In these two years has had somewhat exaggerated flow, but at regular periods. For the last four months the menstrual flow has been excessive. Complains now of severe lumbar pain and general depression. Examination reveals no cervical or uterine congestion, no enlargement of the uterus, no displacement, and a moderate, but uniform, hypertrophy of the cervix. She has sub-acute ovaritis and the periods now recur profusely every fortnight. Her symptoms I considered to be due in a great measure to her age, and she was treated upon that supposition until December, 1869, when the continuance of the hemorrhage rendered it necessary for me to explore the uterus more thoroughly and a tent was introduced which revealed the existence of a small fibroid in the upper part of the cervix. The dilatation was followed by subsidence of the hemorrhage for several months, when it began to recur again at continually diminishing intervals until January, 1872, at which time it had become so profuse as to be alarming and she was brought to town to be under more constant observation. The cervix was with some difficulty fully dilated, but the fibroid mass at the inner os prevented any satisfactory exploration of the cavity of the body, by the finger. By the sound, however, Dr. Putnam, who saw her with me, and myself, were satisfied that there was no other complication. At the ensuing menstrual period there was an entire absence of hemorrhage, the flow being rather scant than otherwise. The following period, the second after dilatation, there was

a slight increase of the flow, but there was never any subsequent hemorrhage during the intervals, although until June, 1872, styptics were applied after the first few days to diminish the discharge, she being weak and anemic from the long continuance of her trouble. From this date the menopause was fully established. A few months later a decided diminution in the fibroid was apparent and at the present date, May, 1877, she is in good health without any uterine disturbance. Just previous to the second dilatation in January, 1872, the hemorrhages in this case were more profuse than I have ever seen them except in post partum cases.

CASE II. — Miss D., single, aged 28 years, applied to me in September, 1876, for relief from exhausting metrorrhagia. For four years she had never been so free from hemorrhage as to permit her to dispense with a guard. She was liable at all times to sudden and unexpected gushes as the result of some mental emotion or unusual muscular effort. She had been under distinguished medical treatment during that whole time, but without any appreciable benefit, and was much depressed mentally and physically. The liability to sudden accesses deprived her of indulgence in the advantages to which her social position entitled her, until at last the prostration induced by her anemic condition had become a source of alarm to her friends. I suspected, of course, some organic cause, — a polypus or fibroid, — and insisted upon a thorough vaginal examination. With great reluctance this was permitted, but the unruptured membrane and general vaginismus proved an effectual bar to the attempt. She was then fully etherized, but neither by touch, sight, or the use of the sound, could any deviation from the normal condition be discovered. The vagina was healthy, the uterus in place and measuring a scant two and one half inches. The result of the examination was sufficiently discouraging in view of the absence of any well defined cause. After the lapse of a short time, during which a large vaginal tube was inserted daily, the vaginismus

was found to be so much lessened as to allow of the introduction of a small tent (September 26), and this was followed for two days by larger ones and the uterus thoroughly explored, but again with negative results, — nothing was found.

September 30. Against reiterated directions, feeling as she said perfectly well, she left her bed imperfectly clad to witness from the window a torch-light procession. This was followed by a severe rigor, rapid pulse, a temperature of 104.5, great pelvic pain, and a large effusion in the left side of the pelvis. This attack, though causing great anxiety, was fortunately succeeded by convalescence in ten days.

October 21. She is able to be down-stairs. For ten or twelve days there has been a slight discharge, which has now ceased.

November 4–7. Well marked but scanty menstruation preceded by molimina. She expresses herself "as feeling her whole nature changed, as though some great weight were removed and she had to begin life anew." She has taken Blaud's pills of iron for three weeks with decided improvement of the general health. No remains of the pelvic effusion.

December 31. Menstruation began and continued for some days, when to her great discouragement a full arterial flow commenced. Preparation was made for a renewal of the dilatation, but the flow ceasing it was deferred with the agreement that it should be resorted to on the first recurrence of the hemorrhage.

February 6. A journey to Philadelphia brought on profuse menstruation for a week, but from that date to the present, May 24, the periods have been regular with a normal flow only.

CASE III. *Endometritis*. *October* 15, 1875. — Mrs. W., aged 27, was married three years since, but divorced in sixteen months. Catamenia began at sixteen ; has never been quite regular and often attended by dysmenorrhea and occasionally profuse leucorrhea. No children, no miscarriage.

She has had pain for twelve months in the lower part of the abdomen, especially on the left side, extending down the legs to the ankles, and constant lumbar pain. She says the menorrhagia has been continuous since last December excepting two weeks in June and ten days in August. She complains now of facial neuralgia, head-ache, ear-ache, insomnia, constipation, and dysuria. She has been under the usual routine treatment for the restoration of her general health. Examination reveals the vaginal surface of the cervix acutely inflamed and the uterus enlarged to three and one half inches in length. The os is soft and patulous, the sound entering with facility but causing pain. The cervical membrane is swollen and everted. Nitric acid is applied to the canal.

November 12. The acid with scarifications, glycerine tampons, and hot vaginal douches, have been persevered in with improvement in the general condition, but the hemorrhages still recur at intervals.

December 28. The hemorrhage still recurring at times profusely, the cervix has for past three days been thoroughly dilated and the cavity of the uterus explored, the curette however bringing away nothing but small portions of hypertrophied mucous membrane. The uterine surface is thoroughly swabbed with tincture of iodine. This is followed by some uterine colic and nausea but no excitement of the pulse.

January 7. There being some recurrence of the hemorrhage the tents are again introduced.

January 12. No hemorrhage. The cervix is apparently healthy and discharging clear mucus. The uterus is reduced to two and five eighths inches in length. From this date I lost sight of the patient and she was under no treatment until she appeared again May 24, with the statement that there had been occasional recurrences. Examination revealed the cervix to be normal, the sound entering two and three fourths inches. This case is reported as showing the marked effect of the dilatation when employed, the

want of more complete success being attributable to the fact that the circumstances of the patient do not permit of absolute rest and freedom from fatiguing tasks. The cervicitis and endometritis are relieved, but there still remains the hyperemic *habit*, if the term is admissible, which will no doubt yield to rest and farther dilatation if needed.

CASE IV. *Hyperplastic Endometritis. September* 3, 1874. — Mrs. P., aged 36, married fifteen years, had one child three and one half years since, with good recovery from the labor. For two years she has had leucorrhea. In January, 1874, menorrhagia commenced and has continued since for three weeks out of four, sometimes very profusely. She is now thin, pale, and extremely anemic, and suffers from vertigo and palpitations. She sometimes passes large clots and at times has strangury. Neither hemorrhoids, pain in the pelvis, nor anasarca are found. For nine months she has been confined most of the time to her bed. Examination reveals some apparent thickening of the anterior wall of the uterus between the fundus and the bladder. The os is nodulated and admits the finger as far as the first joint. She has been under the care of two experienced physicians, one of whom diagnosticated a fibroid tumor, the other malignant disease. I directed her to take ergot, nux vomica, and digitalis, a saline mixture each morning with absolute rest and a good diet, and to notify me of any recurrence of the hemorrhage.

November 6. She is much improved in strength but has now for the first time a slight hemorrhage. Two large tents are introduced and on examination no fibroid enlargement found. The uterine walls appear thickened, with pulpy masses in the cavity. The placental forceps bring away considerable masses of hyperplastic mucous membrane. Dilatation is carried still farther and the following day the operation repeated with the curette, a small additional amount being scraped off.

9th. No hemorrhage nor evidence of constitutional disturbance. Carbolized vaginal injections are ordered.

21st. Blaud's pills are prescribed.

28th. The menses began naturally two days since and to-day are quite profuse but in no way menorrhagic. Plummer's pills are ordered, and rest.

December 2. The menses ceased gradually yesterday.

29th. She has been about the house, gaining strength, and feeling well. There being some leucorrhea ten days since an examination showed the anterior lip to be swollen, red, and abraded, with some tendency to eversion; it is incised freely from within the cerxix. The catamenia have not recurred although impatiently awaited.

April, 1877. *Two and one half years later.* Mrs. P. is actively engaged in her daily occupations. She has occasionally a slight prolongation of her menstrual periods. She looks and feels perfectly well and has not been confined to her bed a day.

This case deserves attention as one of the comparatively rare cases of not merely hypertrophic, but true hyperplastic enlargement of the mucous membrane, being so rarely met with as to have attracted the attention of pathologists only of late years.

CASE V. *February* 4, 1877. — Mrs. H., aged 22, married September, 1875, menstruated regularly until June, 1876, then missed until September, when she miscarried intentionally at about the third month. She menstruated regularly again for four months, *i. e.*, until January 10, this flow terminating the 14th of January. On the 22d she was attacked with hemorrhage which still persists. I was called at 11 P. M., yesterday, and found her with such profuse hemorrhage and exhaustion as to prevent her raising her head without syncope; nothing was discoverable per vaginam. She was then tamponed and stimulants ordered. To-day the tampon was removed and tents introduced morning and evening.

5th. The uterus was swept with double curette forceps and small portions of proliferated membrane removed which under microscopical examination by Dr. Fitz showed some doubtful malignant aspects.

March 29. She has had no farther hemorrhage; has menstruated naturally though rather more freely than usual. She feels and thinks herself well.

In the first of these cases, Mrs. N., the extreme dilatation, whatever may have been its effect in inducing ultimate absorption of the fibroid deposit, did not result in its immediate removal, yet the hemorrhage was immediately controlled, and though it only ceased entirely with the menopause two years later, the effect of the dilatation was conspicuous in arresting a grave hemorrhage of six years' duration, due probably to the fibroid and aggravated by the critical age of the patient.

In the second case, Miss D., there was found after full dilatation, no discoverable cause whatever for a hemorrhage of four years' duration, yet the flow was relieved immediately and permanently and the patient restored to health and strength.

In number three, Miss W., a well marked case of chronic endometritis, the hemorrhage was greatly diminished by the first tent introduced, although months elapsed before the enlarged body of the uterus was reduced to its normal size, during which time occasional slight hemorrhages rendered a repetition of the procedure advisable.

The other two cases belong to a different category and it is impossible to affirm of them that the dilatation alone would have arrested the flow, for in both cases the curette was used, bringing away not merely hypertrophied mucous membrane but hyperplastic or superadded cell growths which might sooner or later have developed into epithelioma or polypi of a sarcomatous character, and yet it is by no means certain that the dilatation alone, by removing the constriction of the cervix and inner os, would not have been effectual in arresting the hemorrhage, even though the diseased membrane had not been interfered with by the curette. If the flow was due merely to the hyperplasia in these cases we should hardly have expected such complete relief, unless we admit the improbable supposition

that every vestige of the diseased condition was removed by the rough application of the curette.

In the first of these two cases (No. 4) two years and a half having elapsed without any return renders it probable that no recurrence is to be feared. The remaining case (No. 5) is of more recent date, and though there has as yet been no relapse, the microscopic character of the membrane removed renders the recurrence more probable.

The rationale of the operation I leave to the criticism of the Society, but there are some points of interest to which I wish first to call attention.

Is it not possible in our dealings with these cases that we have been too ready to substitute cause for effect? If it be true that morbid innervation or strangulation of the cervix at the inner os causes such congestion of the mucous membrane of the body of the organ as to induce hemorrhage more or less profuse, may we not reasonably presume that many of the cases in which after dilatation we find a hypertrophied, proliferated, or even hyperplastic mucous lining extending to the fundus, and to which we have been ready to attribute the whole disturbance, are in truth but the mere consequence of long continued congestion from strangulation of the cervical vessels from spasmodic constriction of the circular fibres?

Fibroid growths or hyperplastic conditions of the cervix, not extending to or involving the inner os, are not commonly accompanied by hemorrhage. I have an extreme case of this kind now under treatment, in which the mass has so occluded the cervical canal as to admit with difficulty a fine probe upon one side only, and causing at each period an intense obstructive dysmenorrhea, yet there has never been any metrorrhagia. Every member of the Society is probably more or less familiar with cases of cervical fibroids which develop at each pregnancy pari passu with the development of the uterus and cause a very serious embarrassment to labor, yet, during their development, exciting no hemorrhage and undergoing subsequently the same process of involution as the uterus itself.

These facts would all seem to indicate that the hemorrhage was in some manner influenced by constriction of the inner os causing congestion and strangulation of the mucous membrane and all morbid growth above that point, even admitting that these growths, whether hypertrophic or hyperplastic, are not in themselves influenced in their development by this constriction.

I am aware that the objection to this theory will be raised, that in many cases there is no apparent constriction at the inner os, the canal being found soft and patulous, the sound entering with perfect facility, and the resulting arrest of the hemorrhage being attributable to compression of the membrane and possibly destruction of some of its vascular papillæ. The answer to this is, that a thickened apparently edematous membrane may occupy the parts, permitting the easy entrance between its folds of a small metal sound, and yet be surrounded by irritable circular fibres so constricted as to interfere with the circulation under the influence of morbid innervation. This view is strengthened by the fact that mere compression of the thickened congested membrane by the tent could cause no permanent relief, inasmuch as the removal of the pressure must be followed by a rapid refilling of the vascular tissues, unless we admit that the vessels are actually and permanently obliterated, which is quite incredible. It seems much more probable that the root of the evil is to be found in the underlying tissues of the organ itself, and that the morbid innervation and consequent constriction are effectually modified by the distention of the tent. Somewhat analogous results are seen in the dilatation of spasmodic strictures of the esophagus, the urethra, and the rectum.

In conclusion, the causes of metrorrhagia are said to be subinvolution, fibroid tumors, mucous polypi, chronic endometritis, simple hypertrophy or a true hyperplastic enlargement of the mucous membrane, etc., etc., and no doubt some of these are found to be present in many of the severe

cases, but as the metrorrhagia in many of them, and, as I believe, in a much greater number than heretofore generally recognized, is arrested as soon as the dilatation is effected, and before the so-called cause is removed, and further, as in chronic cervicitis with hypertrophied mucous membrane in hyperplasia, in fibroid growths, and other affections of the cervix hemorrhage is the exception and not the rule, and, finally, as in some cases (see Case II.) none of the above complications are found to exist, on careful exploration after dilatation, it is practically worth inquiry whether the real cause of the hemorrhage in all cases may not be found in some peculiar condition of the cervix, which strangulates the circulation, and the removal of which strangulation arrests the flow as decisively as the removal of the bandage after the now almost forgotten operation of venesection.