

UPON THE USE OF NITRATE OF SILVER IN GYNÆCOLOGY.

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Much has been said upon the merits and demerits of nitrate of silver in gynæcological practice, some writers positively stating that much harm arises by the inflammatory conditions, the dense cicatritial formations and contractions which they maintain oftentimes results from using the solid stick and powerful solutions, also from inconsiderate and indiscriminate use, etc. On the other hand, we are told by eminent authorities that in nitrate of silver we have the remedy *par excellence* for the treatment of diseases peculiar to women. Though not adopted to all conditions, or to all stages of the same condition, yet in the hands of the properly qualified practitioner it has proved to be of great value. "To be sure," they remark, "like many other drugs we use, if not applied properly and with the careful discrimination necessary in all cases, it will prove to be more harmful than efficacious."

Thus we find the varying opinions, and some of them extreme. While I do not uphold or believe in a routine use of this remedy, yet I think there are many disorders in which nitrate of silver could be used to a much better advantage than the numerous other substances recommended. The fact also that nitrate of silver is extensively used in genito-urinary affections, has led me to inquire into its therapeutics in this special relation.

Nitrate of silver, is principally used in the form of the "solid stick" directly applied, and in the form of aqueous solutions of

various strengths, applied by means of an applicator, or by injections. There are a few special modes of application as Sallemant's porte-castique, Sente's method, etc.

Hypertrophous and inflammatory conditions principally require its use, especially in inflammatory conditions of a low grade and chronic character. In these conditions what is termed an alterative effect is desired, and is brought about by changing the diseased action into a healthy one by the application of powerful astringents and caustics. The aim is to check the exudation and cell-migration, and bring the vascular wall to a healthy state. Nitrate of silver is classed as a mild escharotic, and caustic, and the method of its action is understood.

I will point to a few of the more prominent conditions which may call for the application of this substance.

Purulent Vulvitis.—"The vulva may be painted over once in every forty-eight hours with a solution of nitrate of silver, ten grains to one ounce of water (.65 to thirty cubic centimeters), and kept constantly powdered with lycopodium, bismuth, or starch until recovery is complete."

Pruritus Vulvæ.—"If vaginitis or vulvitis be present great relief will often be obtained by painting the linnig membrane of the diseased part over with a strong solution of nitrate of silver, or by touching the whole surface very lightly with the solid stick and then using the tampon of cotton and glycerine."

"By washing the neck and cervical canal as far up as convenient with a strong solution, twenty grains to one ounce of water (1.30 to thirty cubic centimeters), or when the pruritus is due to some vesicular eruption on the genitals, the application being made to the affected part, this troublesome affection can be removed."

Dr. Charles (*Annales de Gynécologie*) speaks highly of the use of nitrate of silver in this disorder. He says: "The seat of the itching is oftenest near the clitoris or in the nymphæ, sometimes at the margin of the arms. It is necessary to cauterize freely, passing the crayon two or three times over the affected surfaces and even somewhat beyond them." This writer also states that he has found, without a single exception, great relief from the first cauterization, often a complete cure. "Sometimes it is necessary to recur to the cauterization a second or third time after some days." Instead of using the crayon a strong solution, two scruples to one ounce water (three hundred to thirty cubic centimeters), may be used with perhaps equal advantage.

Vaginismus.—Solutions of different strength are used in this affection with varying success. Schroeder uses a very powerful solution, as high as two and one-half drachms to one ounce of water (ten to thirty cubic centimeters). He bathes the genitals carefully with dilute lead water first, and then pencils the sensitive parts with the above solution. Byford, of Chicago, ap-

plies the solid nitrate to the vulva every ten or fourteen days, and uses tannic acid and glycerine during the intervals.

Vaginitis.—In the specific variety of vaginitis nitrate of silver is much used and very highly prized. It is the only local remedy mentioned by Thomas in his work on "Diseases of Women," page 220, which reads as follows: "Sims's small speculum should be passed, the cervix and vaginal walls cleansed with absorbent cotton, the whole canal washed over with a solution of nitrate of silver, one scruple to one ounce of water, and a tampon of carbolized cotton soaked in glycerine applied, so as to prevent all contact of the opposing walls. This should be renewed once in every twenty-four hours. But lengthy renewal will not be found necessary, for cure will, as a rule, very soon occur." Simpson recommends a solution of just one-half the strength used by Thomas. Solutions of various strength, however, are used, according to the opinions and fancies of the advocate, and their efficiency will depend upon the frequency and manner of use, and the individual cases requiring their application.

In *simple vaginitis*, however, this remedy which once enjoyed very popular favor, has now fallen into disuse, and it is now declared that better results can almost always be obtained by other means.

The application of nitrate of silver was once the favorite method of treating all varieties of *urinary fistulæ*, but this has also fallen into "prominent obscurity," on account of the advent of more improved procedures of treatment.

In the various inflammatory affections of the cervix, nitrate of silver is largely used, and it is in this particular situation that this remedy is oftentimes very indiscriminately applied, both in the different varieties of the purely localized manifestations of the cervix, wherein the use of nitrate of silver is not always indicated; and on the other hand in abrasions of the cervix resulting from an extension of an inflammatory condition in the cervical canal, also in cases of lacerated cervix. These are cases in which there has been a lack of recognition or special examination, and a constant application of the caustic to the cervix, will at the very best, result in little if any good.

In the *indolent ulcer*, the *inflamed ulcer* the *fungous ulcer* and the *senile ulcer*, nitrate of silver and other more powerful escharotics are used.

In *diphtheritic ulcer*, this caustic should not be used. In the above mentioned ulcerations the solid crayon is principally applied, as the most powerful alterative effect is necessary.

In *granular degeneration* of the cervix, the treatment is commonly commenced by using the solid stick.

In *cystic* and *follicular degeneration*, the contents of the cysts are evacuated by a bistoury, and their cavities thoroughly

cauterized by a sharp point of nitrate of silver. *Syphilitic ulcers* may also be cauterized by this substance.

In mild inflammations, not approaching ulceration or degeneration, a solution may be used of appropriate strength, and applied every four or five days.

In *acute endometritis* caustic applications are not recommended, but in the chronic form of this disease (granting under the term of *endometritis*, an inflammatory condition of the entire intra-uterine tract, both cervical and corporeal) nitrate of silver has been, and is still, used to a large extent. It is used in the form of a solution, the solid stick, and by fusing and allowing it to cool upon the end of a probe.

Probably as much success has been achieved, in treating this obstinate affection, with argenti nitras, in a proper and careful manner, as has been accorded to other remedies of the alterative type. A saturated solution of carbolic acid, compound tincture of iodine, nitric acid, chromic acid, acetic acid crystals, alum, sulphate of copper, acid nitrate of mercury, zinc chloride and sulphate iodoform, and many more less powerful, have been used with varying results. Their success, however, (and this can be said of all remedies of this class), has no doubt depended, and been influenced to a considerable degree, by the extent and thoroughness of their application, by the condition and constitution of the patient, by the internal treatment, and by the general surroundings. It is not for me to say what all these conditions should be, excepting in regard to extent and thoroughness of local application, as that would be outside of the original intention of this article. The success of the local application of argenti nitras (and other remedies of the same class) in endometritis, will depend greatly upon the previous preparation of the diseased surface, or in other words, the canal must be dilated, and the surface of the membrane relieved of the thick tenacious discharge. In regard to the dilation, I can impress it no better, than to quote the remarks of Thomas as follows: "If this be neglected and the practitioner satisfy himself with passing through the constricted orifice, nitrate of silver, iodine, pencils of zinc, alum, iron, etc., once or twice a week, no good whatever will result. After months, or even years of treatment, he will discover that the mild means which he has adopted have left the disease uncontrolled; or that the severe ones have increased contraction of the os, which renders menstruation difficult and painful." The discharge may be removed by means of a syringe, piece of sponge, or cotton wound upon an applicator or stick. These remarks refer more particularly to the cervical canal.

Applications to the uterine cavity above the internal os are not often called for, though there is no doubt that solid caustic may be applied with safety in chronic cases, after preliminary dilatation of the cervical canal. This is effective treatment in

some instances, but injury is often done, by over-stimulation, and too prolonged contact of the caustic.

"Nitrate of silver," states one writer, "should not be used for intra-uterine injections, as even in weak solutions it gives rise to violent uterine colics, often of long duration."

In *cystitis*, obstinate causes of which the practitioner will often meet in connection with female affections, nitrate of silver has proved to be valuable. Generally beginning with a weak solution, and gradually increasing the strength up to twenty grains to forty grains to one ounce of water (1.30 to 2.50 to thirty cubic centimeters), not very seldom giving beyond this last figure. This treatment for *cystitis*, has within late years become quite popular, and many good results have been achieved.

In *urethritis*, also, the application of a weak solution will often be found beneficial.

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