

ther, I must not forget to mention the excellent vaginal douche (Fig. 45), the invention of Dr. Frank P. Foster, of this city.

The well-known "fountain-syringe" may also be employed.

As a general rule, injections of greater strength may be used for women than for men, and for the sake of cheapness and convenience they are commonly made more simple in their composition. The patient may be supplied with the solid ingredients, and allowed to mix them as required, and in order to avoid the expense of having them put up by the druggist in divided portions ready for use, it is desirable, among the poor, to supply them in bulk. A little instruction from the surgeon will enable the patient to measure them out with sufficient accuracy. A heaping teaspoonful, or, in other words, as much as can possibly be taken up by a teaspoon, of the more common ingredients of injections, is nearly as follows:

Alum, ℥ij . . . . .	8
Sulphate of Zinc, ℥ij . . . . .	8
Acetate of Zinc, ℥iiss . . . . .	6
Subacetate of Lead, ℥iij . . . . .	12
Tannin, ℥ss . . . . .	2

From one to two drachms of either of these salts to the pint of water is the average strength employed, but the ratio should always be proportioned to the effect produced, and the sensibility of the parts. Whenever severe or long-continued pain is induced, the strength of the solution should be at once diminished, and afterwards increased as the tenderness becomes less. I would repeat what I have said with reference to injections for men, that young practitioners often lose time, to the neglect of more important matters, in frequently changing from one form to another; cases, however, occur in which one injection appears to lose its effect, and another may be substituted to advantage, but no change should be made unless it is evident that the unsatisfactory result is not due to a faulty method of using the syringe, or to constitutional causes, or again, unless the solution, however diluted, excites pain and uneasiness.

When the subsidence of the more acute symptoms first permits the introduction of an enema-tube, a drachm of alum may be dissolved in a pint of flaxseed tea, and injected warm, but the temperature should be gradually lowered, and the injection ultimately used cold. Injections of cold water alone, during the chronic stage of vaginitis, are of great value. They not only cleanse the parts, but exert a tonic influence upon the vagina and neighboring organs. Their effect, however, is increased by the addition of alum, or the other salts above mentioned. They should be employed from two to three times a day, but must be omitted, for obvious reason, during the menstrual period.

A combination of tannin and alum, as recommended by Dr. Tyler Smith,<sup>1</sup> is also an excellent form of injection, and one which I have

<sup>1</sup> Pathology and Treatment of Leucorrhœa, p. 183.

prescribed with much success. The proportions are ℥ss-℥ of tannin, and ℥ij of alum to the pint of water. Tannate of alumina is formed by chemical decomposition. It should be recollected, however, that tannin, and the salts which contain it, stain the linen almost as indelibly as nitrate of silver, which is a serious objection with many women to its use. I have also employed injections of the sulphate and acetate of zinc, and subacetate of lead, with satisfactory results. Labarraque's solution of chlorinated soda, diluted with from eight to twelve parts of water, may be injected, when the discharge is very offensive. A solution of chloride of zinc, of the strength of from one to three grains to the ounce of water, is a favorite injection with some surgeons.

The following formula, intended as a substitute for the aromatic wine of the French Pharmacopœia, is one of the best injections for general use:

R. Claret Wine,	
Compound Spirits of Lavender, āā ℥v	150
Tincture of Opium, ℥ss . . . . .	15
Water, ℥iijss . . . . .	105
Tannin, ℥j-℥j . . . . .	4
M.	—30

I usually direct the patient to add two tablespoonfuls of this mixture to a tumblerful of water, and to gradually increase the strength.

I rarely prescribe a solution of nitrate of silver for the patient's own employment, but frequently myself apply it to the vaginal walls by first introducing a glass speculum as far as the cervix uteri, and then pouring a few drachms through the instrument. If the speculum be slowly withdrawn, the fluid will come in contact with the whole extent of the vagina. I regard this method as one of special value, for if the patient lie on her back with the pelvis well elevated, and if the speculum be as large as the parts will admit, the force of gravity carries the solution into every recess of the dilated vagina, and insures its thorough application to this canal, and also in a measure to the cavity of the cervix. The parts should be thoroughly cleansed with copious injections of simple water before the speculum is introduced. In this manner a solution of nitrate of silver, containing ℥j-iij to the ounce, may be applied by the surgeon every third or fourth day, and the patient at the same time use some mild astringent injection twice a day.

An application of the solid nitrate of silver crayon, a favorite method of treatment among French surgeons, is requisite in some cases which do not improve under a solution of the same salt. The deepest folds of the vagina should be exposed by means of a bivalve speculum, and the caustic applied to the mucous membrane covering the cervix, and to that of the vaginal walls, as they are brought into view by the gradual withdrawal of the instrument. The compound tincture of iodine, pencilled over the surface with a camel's-hair brush attached to a long handle, is sometimes preferable to the lunar caustic.

The contact of purulent matter with the mucous membrane of the genital organs is doubtless a constant source of irritation, and is probably sufficient to account for some of the superficial abrasions and other lesions, revealed by a specular examination. The collection and retention of pus upon the external integument will soon excoriate the surface, and, with still greater reason, may it be supposed to act thus upon the more delicate mucous membrane. The abrasions, once formed, increase the quantity of the discharge by their own secretion, and thus the two react upon each other, and prolong the disease. The evil is easily remedied in balanitis and vulvitis by interposing between the inflamed surfaces some porous material, capable of absorbing the discharge as fast as it is secreted, and wet, if desired, with an astringent lotion, which will exert a constant medicinal effect upon the mucous membrane. The same result may be attained in vaginitis, and has even been attempted in gonorrhœa of the cervix.<sup>1</sup> For this purpose a folded piece of lint is sometimes used, but a plummaseau of charpie or carded cotton is preferable, since it retains its elasticity to a greater degree, and is a better absorbent. It may first be rolled in the following powder:

R. Powdered Starch, ℥j . . . . .	30
Tannin, ℥v . . . . .	20
Powdered Alum, ℥iiss . . . . .	6
M.	(Diday.)

To facilitate its withdrawal, a small string may be previously attached to it. The size of this tampon must be proportioned to the dimensions of the vagina in each case, and will vary in diameter from half an inch to two inches. In some instances it is medicated, in others not. In the former case, the medicinal substance may be an absorbent or astringent powder, as prepared chalk, subnitrate of bismuth, calamine, tannin, powdered alum, etc.; or, it may consist of any of the lotions which have been recommended for the purpose of injections either in the male or female. Calamine and powdered alum are the best dry preparations, and a solution of tannin in glycerin (℥j-ij ad ℥j), an excellent fluid astringent. The plug may be inserted by the surgeon through a speculum, or the patient may be taught to introduce it with her finger, or by means of a stylet. It should be withdrawn at the end of twelve hours, the vagina washed out with a copious injection, and a fresh plug introduced, or the latter may be deferred till the following day.

Scanzoni employs a plug of cotton-wool, sprinkled with alum-powder, either pure or mixed with one or two parts of sugar. Pure alum is liable on the second or third application to excite a very disagreeable sensation of heat and constriction in the vagina, rendering it necessary to suspend the treatment for a week or two; hence it is not to be used undiluted, unless the parts are quite insensible; and

<sup>1</sup> HOURMANN, Tamponnement, comme méthode de traitement des écoulements utéro-vaginaux. J. d. conn. méd.-chir., Paris, mars, 1841, p. 89.

on this account therefore, it will be best to try, in the majority of cases, a mixture of alum and sugar. The plug, thus prepared, should not be used oftener than every second or third day, nor be allowed to remain in longer than two or three hours, since it soon becomes soaked with the vaginal secretion, and lukewarm or cold water should be injected immediately on its withdrawal. If these precautions be neglected, acute inflammation of a troublesome character, may be excited, and the discharge augmented instead of diminished.<sup>1</sup>

Simpson, of Edinburgh, has proposed an efficacious mode of keeping an astringent in constant contact with the vaginal walls, by means of pessaries, prepared according to the following formula:

R. Acidi Tannici, ℥ij . . . . .	260
Ceræ Albæ, ℥v . . . . .	650
Axungiæ, ℥vi . . . . .	24
Misce, et divide in Pessos quatuor.	
R. Aluminis, ℥j . . . . .	4
Pulveris Catechu, ℥j . . . . .	4
Ceræ Flavæ, ℥j . . . . .	4
Axungiæ, ℥vss . . . . .	22
Misce, et divide in Pessos quatuor. <sup>2</sup>	

*Hip-baths*, taken every morning on rising, or in the early part of the day, are valuable adjuvants in the treatment of chronic vaginitis. The temperature of the bath should be determined in part by the season of the year, and in part by the strength and habits of the patient. It is well to commence with lukewarm water, and gradually lower the temperature, as the system becomes accustomed to them; but they should never be so cold nor continued so long that the patient feels chilly for some time after their employment, and reaction should be promoted by friction with a coarse towel, flesh-brush, or hair-mitten. These baths may be rendered still more effectual by the addition of a handful of coarse salt to each bucket of water used. Astringents, as alum, in the proportion of half a pound to each bath, are also recommended by some authors.

The *hygienic management* of the case should always receive special attention in chronic vaginitis. As the inflammatory symptoms of the acute stage subside, the patient may be allowed a more generous diet and greater freedom of motion, but she should still avoid violent or prolonged exercise, and especially all sexual excitement. Walking and even standing for any length of time should be but moderately practiced at this stage of the affection. No absolute rules can be laid down for diet, which should be adapted to each individual case. In general, the food should be plain and simple, and yet sufficiently nourishing, and the meals should be taken at regular hours. Highly seasoned dishes, pastry, and meats, cheese, and strong tea and coffee, should be forbidden; and bread, eggs, fresh meat once a day, vegetables, and simple puddings, recommended. Regularity of the bowels

<sup>1</sup> Op. cit., p. 456.

<sup>2</sup> Edinburgh Monthly Journal, June, 1848, and Obstetric Works, p. 98.

should be secured, if necessary, by small doses of saline cathartics, taken on rising in the morning; and, in brief, all such measures should be adopted as are calculated to bring the general health to the best possible condition. The latter rule implies that the system should neither be stimulated above, nor depressed below, the happy mean; yet, at the same time, there are but few cases of chronic vaginitis which do not require some support, and in which either mineral acids, preparations of iron, vegetable tonics, quinine, or even stimulants, are not, at some period, indicated.

The formulæ for various tonics, already given when treating of this disease in the male sex, are equally applicable to the female. The only one which I would add at present is the following old but excellent combination of a tonic, cathartic, and astringent. Its cheapness recommends it especially for the poorer class of patients, while for those in better circumstances a more palatable substitute may be found in Seidlitz powders or citrate of magnesia, taken on rising from bed, and in the French *dragées* of iron administered just before or after meals.

R. Magnesiæ Sulphatis, ℥iiss . . . . .	45
Ferri Sulphatis, ℞ij . . . . .	260
Acidi Sulphurici, gtt. x . . . . .	65
Infusionis Gentianæ Comp., Oj . . . . .	500
M.	

A tablespoonful three times a day.

In *gonorrhœa of the vulva* lotions may be applied with great facility, and the parts separated by the interposition of lint or charpie. Cauterization with the solid nitrate of silver or a solution of this salt is often beneficial. Resolution of a commencing abscess of the vulvo-vaginal gland or duct may sometimes be obtained by rest, cathartics, an antiphlogistic regimen, and the application of ice, assisted, in some cases, by the application of leeches to some adjacent part. If suppuration takes place, the abscess should be opened without delay. Ricord, Vidal, Zeissl, and others advise making the incision upon the external surface of the labium, to avoid the admission of the urine and discharges, which would irritate the cavity of the abscess and prevent its healing. An incision in this situation, however, often fails to prevent a spontaneous opening on the mucous surface, where the abscess naturally tends to point.<sup>1</sup> By making a small incision on the internal and inferior aspect of the tumor, and directing the knife somewhat upwards, so that the cut shall be valvular, and also by allowing the abscess to evacuate itself by the contraction of its walls without the exercise of pressure, the entrance of foreign matter may generally be prevented. In case the abscess repeatedly recurs, its exact seat should be carefully ascertained. If it occupy the duct, it should be laid open by a free incision, and the cavity filled up with lint. If it be seated

<sup>1</sup> Huguier, op. cit., p. 343.

Diday also recommends the incision to be made on the mucous surface. Diday and Doyon, Mal. vén. et cutanées, 1876, p. 119.

in the gland, this must be dissected out. I have tried, in several instances, to cure these abscesses by the introduction of a seton, but have always failed.

Whenever, after an attack of vulvitis, there still remains a purulent discharge from the vulvo-vaginal duct, and also in the cases described by Dr. Salmon, in which this part is primarily affected, a solution of nitrate of silver may be injected by means of Anel's syringe.

In *gonorrhœa of the uterus*, the os should be dilated if necessary by means of sponge tents, and the cavity of the cervix and body of the uterus be freely cauterized with the solid nitrate of silver. A crayon of this salt may be passed up with forceps into the uterine cavity; or the extremity of a uterine sound or Lente's probe<sup>1</sup> may be coated with the nitrate melted over a spirit-lamp, and be made to sweep over the whole affected surface. No danger need be feared even if the crayon of the nitrate should break, and a portion be left within the uterus. The application should be repeated every third or fourth day, and astringent vaginal injections be still continued. *Intra-uterine injections are never admissible*, as they have repeatedly proved fatal.

Whenever, in *gonorrhœa of the vagina or uterus*, the cervix is found enlarged and congested, from four to six leeches may be applied. They are especially applicable at the outset of the treatment, and may require to be repeated once or twice at intervals of a week; but the patient should not be debilitated by their frequent use. The surgeon should apply them himself, taking care to plug the cervix beforehand, that they may not fasten upon the sensitive membrane of its internal surface. If the flow of blood is excessive, it may be arrested by cold injections of a solution of alum.

The acute stage of *urethritis* is of so short duration as to demand but little special treatment. In most cases, the measures adopted for the concomitant inflammation of the vulva, vagina, or uterus, aided, perhaps, by the administration of alkalies, neutral salts, or sedatives, are sufficient to effect a decided amelioration, and often the entire disappearance of the disease. When this result fails to be attained, I do not hesitate to resort to injections, as in urethral *gonorrhœa* in men; but as they cannot be used by the patient, it is necessary for the surgeon to administer them himself. Their active principle may be one of the salts of lead or zinc, or tannin; or from one to two drachms of a solution of nitrate of silver, containing ten or twenty grains to the ounce, may be thrown in. If, in this case, we carefully guard against having the bladder entirely empty, no evil result need be feared. Cullerier, in *gonorrhœa of the female urethra*, does not hesitate to cauterize the whole length of the canal by means of a crayon of nitrate of silver sufficiently large to distend the passage.

Copaiba and cubebs may also be employed in this affection, ad-

<sup>1</sup> A new Uterine Porte-caustique, by Fred. D. Lente, M.D.; American Med. Times, Sept. 26, 1863.

<sup>2</sup> Des affections blennorrhagiques, p. 58.

ministered in the manner directed for men. Ricord's experiments have shown that their effect in gonorrhœa of any portion of the genital organs not traversed by the urine is so slight that they are not to be recommended in vaginitis or vulvitis. Indeed they can readily be dispensed with in all forms of gonorrhœa in women.

"LATENT GONORRHOEA IN WOMEN."—A remarkable pamphlet was published in the German language, at Bonn, in 1872, by Dr. Emil Noeggerath, of New York, and has been supplemented by an article in the first volume of the Transactions of the American Gynecological Society (1876).

In these articles Dr. N. advocates the existence of a so-called latent gonorrhœa in both sexes; in other words, he claims that gonorrhœa in both man and woman is *never* cured, even if all appreciable signs of its existence have disappeared; that in man the inflammation always extends into the spermatic ducts, vas deferens, and epididymis, and in woman into the uterus and Fallopian tubes; that, though it may be cured in those portions of the genital tract which can be reached by local applications, it still lingers in the inaccessible portions just mentioned, preserving its contagious property, and ready to break out again in an acute form upon slight provocation; that in this way may be explained the cases in which men contract gonorrhœa from apparently healthy women; and finally, that this latent disease in men is communicated by them to their wives after marriage in some latent way—*latent*, because the women show at the time no sign of infection—and manifests itself at some time or other in one of those troublesome, tedious, and even fatal affections to which women are subject, and among which Dr. N. mentions acute perimetritis, recurrent perimetritis, chronic perimetritis, ovaritis, and puerperal fever; such women are said also to be commonly sterile.<sup>1</sup> All this in consequence "of the gradual infection (?) of the woman by repeated contact with minute quantities of the poison."

Dr. Noeggerath founds his conclusions upon the cases of the above-mentioned diseases and the cases of sterility which have come under his treatment, and in which inquiry into the history of the husbands has shown in nearly every instance that they had had at some time in their lives one or more attacks of gonorrhœa, of which perhaps they had not perceived the slightest trace for months or years.

It is a little singular that Dr. N. did not perceive the fallacy of reasoning on the principle of *post hoc ergo propter hoc* in these cases. He explicitly states that he believes with Ricord that 800 out of 1000 men have had gonorrhœa. Let us then apply the same reasoning to 1000 women, who have remained healthy after their marriage,

<sup>1</sup> "The wives of men who at any time in their lives have had gonorrhœa, are as a rule, sterile." These words constitute one of Dr. N.'s conclusions. Again, he says: "About ninety per cent. of sterile women are married to husbands who have suffered from gonorrhœa either previous to or during married life."

and who have "replenished the earth" with many quiverfuls of offspring. Eight hundred of their husbands must have had gonorrhœa at some time in their lives; hence gonorrhœa is greatly conducive to fecundity! *Post hoc ergo propter hoc.*

At a recent meeting of the British Medical Association it was announced by one of the speakers that Dr. N.'s views were so generally known and accepted in America that one of the first questions asked by the parents of every young lady to whom marriage was proposed by a gentleman, was whether he had ever had the clap!

Let any specialist in disease of the male genital organs inquire of married men coming to his office whether they ever had the clap, and, if so, if their wives have since been healthy and borne children, and he will find the answers not corroborative of Dr. N.'s views. In short, even if 800 out of 1000 men have had the clap, the human race did not die out long ago, but still exists, and shows no tendency, so far as I know, to diminution.

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