

Dundore (Chas. A.)



Nosophen



....AND....

Antinosine

In the Treatment of

**Genito-Urinary and Venereal Dis-
eases, with Report of Cases.**

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Persons of the Anthracite Coal Regions of Pennsylvania.*

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NOSOPHEN AND ANTINOSINE

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of the Anthracite Coal Regions of Pennsylvania.

In a former article * I incidentally called attention to the beneficial results obtained by the use of nosophen and antinosine in several cases of gonorrhœa and chancre, and, as further experience has verified the efficacy of these agents in various genito-urinary and venereal diseases, I feel justified in again bringing them to notice by way of emphasis, and also in citing a number of cases.

Nosophen is obtained by the action of iodine upon phenolphthalein in solution; it is a tasteless, odorless, grayish-yellow powder and contains 61.7 per cent. of iodine; it melts at 255° C., evolving iodine vapor, and is insoluble in water and acids, and very slightly soluble in alcohol, ether and chloroform.

Owing to its acid character it forms salts with various bases; its sodium salt, called antinosine, is a blue powder very freely soluble in water, forming a blue solution.

* *Codex Medicus*, February, 1898.

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As a cicatrizant, nosophen is vastly superior to all other agents used heretofore, and its advantages become evident even after a very short experience with it.

Its germicidal action has been proved by Dr. Lieven, * and, as dry wounds do not favor bacterial reproduction, its desiccative power undoubtedly increases its tendency to check suppuration. It promotes granulation, this effect being very noticeable in lesions of a syphilitic character, and being due to the large amount of iodine entering into its composition.

That it is unirritating and non-toxic has been conclusively shown by Dr. Seifert, † of Würzburg, and has been repeatedly verified in this country. It is odorless, which makes it greatly appreciated, especially in venereal diseases, and is also slightly anæsthetic, hæmostatic and astringent.

Antinosine in solution has the same effect on inflamed, catarrhal and suppurating surfaces that nosophen has as a powder; it paralyzes and prevents the escape of leucocytes from the vessels of wounds and irritated tissues without disturbing the circulation, and checks pus formation and accelerates the reparative process.

The deposit thrown down in a solution of antinosine which has been for some time

* *Münchener medic. Wochenschrift*, No. 22, 1895.

† *Wiener klin. Wochenschrift*, No. 12, 1895.

exposed to the air, consists of nosophen precipitated by the action of carbonic acid; the solution, obviously, can produce no harm if used in this state, although, if desirable, the precipitate is readily dissolved by boiling.

By the addition of a small quantity of glycerin to a solution of antinosine, decomposition is obviated, and it is therefore convenient to have on hand a ten-per-cent. stock solution in equal parts of glycerin and water, and to reduce it to the desired strength, when needed, by the addition of the proper quantity of water. In the various genito-urinary and venereal affections, in which these two remedies have been largely used, a marked improvement as to the length of time treatment was required has been noticed; and it has been gratifying to find, after an experience of two years, that these two agents have none of the defects which have proved so objectionable in other remedies used in the treatment of these cases.

Venereal ulcers, whether syphilitic or chancreoid, have been treated alike, but in those which afterward proved to be the initial lesion of syphilitic infection, nosophen and antinosine have produced more prompt effect; the extension of the sores being rapidly checked, the sloughs disappearing, and the granulations taking on a healthy appearance; these results being undoubtedly due to the characteristic action of iodine on all syphilitic lesions.

If an ulcer is of a phagedenic character it is advisable to apply antinosine for several days, because being soluble, it exerts more powerful action than nosophen, and the inflammation is more quickly controlled and, consequently, the sloughing and extension of the sore are checked. When this effect is obtained it is preferable to apply nosophen thereafter, which in ordinary cases, with little or no tendency to spread, answers every purpose, and its desiccative action is desirable.

The treatment of specific urethritis depends largely on the character of each individual case, *i. e.*, the severity of the symptoms and the portion of the urethra involved; the general condition of the patient at the time of infection having a marked influence, either good or evil, upon the severity of the symptoms and, therefore necessarily, upon the course of the disease.

The adoption of the irrigation method of treatment, without a catheter, as used by Dr. Jules Janet, is a great improvement, and marks an era of advancement in the management of this class of cases.

It is impossible to appreciate it too highly, for it has been the means of laying the foundation of a rational and efficacious method of treatment in urethritis, after years of adherence to antiquated methods, which we must acknowledge have proved almost useless; in

fact, it is believed by many that the routine treatment in vogue has been productive of more harm than good.

Many authors have stated that specific urethritis runs a fixed course, uninfluenced to any extent by treatment, and, while there is considerable truth in this statement, we must acknowledge that the fault has been with the methods practised, for, while a better knowledge of pathology and bacteriology has been productive of great revolutions in the methods of treating other diseases, yet this affection, until two years ago, has been treated the same as it was fifty years ago. Some very mild cases, as is well known, need very little treatment, but the moderately severe and virulent ones, especially those involving the posterior urethra, demand rational treatment, such as the pathology of the disease and the anatomy of the urethra indicate, and those who will take a little time to master the technique of urethral irrigation without a catheter, and will give it a trial in this class of cases, will never after have cause to state that treatment has no effect upon the duration of specific urethritis. It is not pretended that irrigation will perform impossibilities, or that this disease is shorn of all its unpleasant features, and that every case is cured in a few days—for I cannot bring myself to believe the statistics of those enthusiasts who claim to cure a large percentage of these

cases in three days—but I know that by this method it is possible to control the inflammation, to alleviate the severity of the symptoms, and to reduce the period of treatment to half the time formerly required. Solutions of mercury bichloride were first used; afterward potassium permanganate was substituted, with better results; but for almost a year I have made use of antinosine in solutions varying in strength from one-fourth per cent. to two per cent.; it causes less irritation, is less liable to produce œdema of the penis, and has given uniformly better satisfaction. The strength of solution, the frequency and number of the irrigations, each vary largely according to the nature of the case; but I do not think daily irrigations are called for in any but a very small percentage of unusually severe cases involving the posterior urethra and bladder. Injections of antinosine solution by the patient are a valuable adjunct to the treatment and should be used from three to six times daily, according to the severity of the case; through their agency the glans and prepuce are thoroughly cleansed and kept aseptic, and secondary infection is prevented; the patient is also imbued with the idea that he is “doing something.”

In addition to the measures mentioned, alcoholic drinks should be strictly forbidden and all exercise should be of a light character; the diet must be plain, and the bowels moved each

day; internal treatment is uncalled for, except in those cases of posterior urethritis in which the bladder becomes involved, when potassium citrate, fifteen grains, given four times daily, is of material benefit.

Space forbids a description of the technique of urethral irrigation, and I can merely refer those interested in the subject to a very lucid article, by Dr. F. C. Valentine in the *Medical Record* of June 5, 1897, which faithfully gives the most minute details.

As to apparatus, it may not be out of place to state that while the ordinary fountain syringe would seem at first thought to answer every purpose, yet this is fallacious, for one cannot operate the cut-off with one hand, the nozzles are useless, and a more serious defect is that the lumen of the tubing is entirely too small to allow sufficient hydrostatic pressure.

F. A. Reichardt & Co., of New York, are the manufacturers of an irrigator following Dr. Valentine's ideas, which is admirable in every way and can be bought for far less than it would cost to devise and make an apparatus.

In the cases of balano-posthitis, specific erythritis, cystitis, herpes, etc., cited below, nosophen and antinosine have proved equally beneficial, the length of treatment being unexceptionally shorter.

I append below a brief *résumé* of the cases treated with these agents, incidentally describ-

ing the methods used, and believing that this will give a clearer conception of their beneficial effects than any further general statements. To avoid useless repetition, cases of a like character, as to the severity and symptoms, are described together.

Simple Urethritis, Four Cases.—The patients were instructed to use an injection of a one-half-per-cent. antinosine solution four times daily, and to take a warm bath every other night; light diet was advised, and all alcoholic beverages were forbidden.

Three cases required no further treatment after the first week, but the fourth case, still showing inflammatory symptoms, was directed to use the injections twice daily for another week, at the end of which treatment ceased.

Simple Elytritis, Eleven Cases.—Uniform directions were given to use a douche of two quarts of a one-per-cent. antinosine solution, as warm as was bearable, each night and morning, preceded at night by a warm bath; complete rest was advised when possible. Seven cases were cured in two weeks' time, although they were instructed to continue one douche, at night, for two weeks longer.

The other four cases, proving more obstinate, were told to place in the vagina each night on going to bed a suppository containing the following:

Ext. belladon..... gr. $\frac{1}{8}$;
 Plumbi acetat..... gr. ss.;
 Antinosine gr. ij;
 Ol. theobrom..... q. s.

Curative results were obtained in these cases in from four to six weeks.

Abscess of Vulvo-vaginal Gland, Three Cases.

Two of these cases were of specific origin. Immediate incision was practised, the abscess cavity and vagina being freely douched with a hot two-per-cent. antinosine solution, after which the cavity was packed with about a half drachm of nosophen. The patients were directed to douche the vagina and external genitals thoroughly thrice daily with a one-per-cent. solution of antinosine, and each day nosophen was placed in the abscess cavity; a laxative was ordered with restricted diet and rest in bed. The non-specific case recovered in a week, the other two requiring treatment for three and four weeks respectively, on account of vaginitis, although the abscess cavities had healed in ten days.

Herpes Præputialis, Six Cases.—The following ointment was applied to the vesicles or ulcers three times daily:

Antinosine..... gr. xv;

Adeps lanæ hyd..... q. s. ad $\frac{3}{4}$ j—

the parts being thoroughly washed with soap and water before each application and the patient directed to take a warm bath each night.

At the end of a week, instead of the ointment nosophen was dusted freely on the sores three times a day. Iron, quinine and strychnine were given internally. No case required treatment for more than three weeks.

Chronic Cystitis, Five Cases.—Intravesical irrigation with a half-per-cent. antinosine solution was practised each alternate day for a week, and thereafter once each week.

Perfect quiet and plain diet were ordered, and all alcoholic beverages forbidden. Iron, quinine and strychnine were prescribed, with ten grains of citrate of potassium four times daily.

For ardor urinæ in two cases, suppositories consisting of extract of opium and extract of belladonna, were administered per rectum when necessary.

Specific Balano-posthitis, Four Cases.—The patients were directed to urinate and then inject the urethra with a one-per-cent. antinosine solution, and to suspend the penis for about five minutes in a solution of the same strength. The glans and prepuce were then dusted freely with nosophen.

This was done four times daily and, in one case of a virulent character, six times daily. A warm bath was ordered each night.

One case was cured in ten days, the others in from two to three weeks.

Specific Elytritis, Four Cases.—As there was more or less involvement of the urethra in

each of these cases, intravesical irrigation was practised every alternate day and the patient instructed to douche the vagina and vulva each morning, noon and night with two quarts of a two-per-cent. antinosine solution as warm as could be borne.

Each night on going to bed the following suppository was placed in the vagina:

Antinosine,.....	3 grains;
Boric acid.....	10 “
Extract of belladonna.....	$\frac{1}{8}$ of a grain;
Zinc sulphate.....	$\frac{1}{2}$ “ “
Cocoa butter.....	a sufficiency.

In two cases the pain was considerable, and a quarter of a grain of extract of opium was added to the suppository.

Plain diet and perfect quiet were enjoined. When the inflammation had largely subsided, which happened in one case after ten days' treatment, and in the other three after fifteen days, the suppositories and intravesical irrigations were discontinued, but the douches were kept up three times daily for a week longer. A week later the patients were told to use a one-per-cent. antinosine douche night and morning. The length of time treatment was required, was respectively seventeen, twenty-three, twenty-five and thirty-one days.

Specific Urethritis, Sixteen Cases.—In nine of these, in which the anterior urethra was alone affected, anterior irrigation was made use of

once daily for three consecutive days, and after that on each alternate day for twelve days. At the end of that time three cases needed no further treatment, and the other six received an anterior irrigation every fourth day for periods varying from one to three weeks. Directions were given to wash the glans and prepuce thoroughly with a one-per-cent. anti-nosine solution, and to inject the same solution into the urethra four times daily; in addition, as much rest as possible, plain diet, and a warm bath each night were advised and strict injunctions given against alcoholic drinks and coition.

Fifteen grains of citrate of potassium were given four times daily, and for chordee, when present, half a drachm of tincture of hyoscyamus, twenty grains of potassium bromide, and five grains of chloral hydrate were given at bedtime.

Cures resulted as follows: Three in fifteen days, two in twenty-two days, one in twenty-four days, two in twenty-eight days, and one in thirty-five days—the last-mentioned case having been on several sprees, according to his own admission.

The seven cases in which the posterior urethra was more or less involved received intravesical irrigations daily for the first week, on alternate days the second week, and after that every fourth day, as long as the continuance of

the symptoms required; all other treatment was similar to that advised in anterior cases.

Two cases were cured in twenty days, one in twenty-five days, two in thirty days, one in thirty-three days and one in forty days, the last two requiring longer treatment on account of not obeying instructions as to coition and alcoholic drinks.

Chronic Specific Urethritis, Five Cases.—The urethra was injected with a one-quarter-per-cent. solution of silver nitrate at the time of application for treatment, and each day following, for a week, irrigation with a two-per-cent. solution of antinosine was practised. Each patient was ordered to wash the glans and prepuce, and to use a one-per-cent. antinosine solution as an injection four times daily. The same directions were given in regard to diet, coition and alcoholic drinks as in acute cases.

The second week an irrigation with a one-per-cent. solution of antinosine was given each alternate day, and at the end of that time three cases required no further treatment. One of the two remaining cases received three more irrigations at intervals of three days before a cure was effected, and the fifth case was treated for six weeks.

Gleet, Three Cases.—Dilatation with bougies was practised three times weekly for two weeks, followed each time by intravesical irrigation with a one-per-cent. antinosine solution. The

same treatment, twice a week, was used for the next two weeks, when one of the cases was cured. One of the remaining cases required treatment for ten days longer by irrigations on alternate days without bougies, and the third case disappeared after five weeks' treatment, no doubt to the sorrow of some brother practitioner.

Bubo, Five Cases.—Two were syphilitic and the other three the result of specific urethritis.

In one of the syphilitic cases, which was seen early, five grains of antinosine to an ounce of water was injected hypodermically to endeavor to abort it if possible; no suppuration occurred, but whether this was due to the antinosine or not will have to be proved by further investigation.

In the other four cases pus was present and a free incision was made, the cavity evacuated and curetted, and a drachm of nosophen placed within. Each day thereafter the cavity was washed out with a three-per-cent. antinosine solution and nosophen again introduced.

No case was treated longer than three weeks.

Chancre, Six Cases.—Four of these, with little tendency to spread and no sloughing, were dusted with nosophen four times daily, after first washing the sore thoroughly with a three-per-cent. antinosine solution. Cures resulted in three, four, four and five weeks and a half respectively. The other two cases, being of a viru-

lent character with sloughing ulcers, were first cauterized with nitric acid and then covered freely with antinosine daily for a week, after which, the sloughs having come away, leaving a healthy granulating surface, the same course of treatment was pursued as in the above cases, healing being perfect in five and six weeks and a half.

Chancroid, Three Cases.—These were each cauterized at once with nitric acid, and directions given to wash the penis thoroughly, from four to six times daily, with a three-per-cent. antinosine solution, after which antinosine was dusted on the ulcer. After the inflammation had largely subsided, nosophen was substituted for antinosine. Cures resulted in five, five and a half, and seven weeks.



