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PYOKTANIN IN DISEASES OF
THE EYE, EAR AND
THROAT.

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Since Prof. Stilling's article, in *Merck's Bulletin*, of June, 1890, on pyoktanin was published, much has been written for and against it as a remedy. I think the best way to satisfy oneself of the virtues of a medicine is by self-trial, and this I have been doing for some weeks with pyoktanin. Pyoktanin is a combination, by substitution, of some of the coal tar extracts, and is either blue or yellow. I have used both of them in the stick, and in solutions from 1 to 500, to 1 to 2,000.

Prof. Stilling tells us:

“ A paste made of wheaten flour and
a 2 per 1,000 solution of pyoktanin (10c)



not sour, no matter how long kept. Mold fungus, *mucor stolonifer*, was put on bread-rolls, some moistened with water and others with solution of pyoktanin, of from 1 to 500 to 1 to 1,000; on the former the mold grew luxuriantly, but on the latter, which were kept moist for a fortnight, not a trace of mycelium could be detected. This same mold, with others, was put in a mixture of sugar, extract of meat and gelatin, which had been painted in stripes with a solution of pyoktanin, one-half per cent. in strength. The mold grew rapidly where there was no pyoktanin, but was checked abruptly when it reached the line.

“Small vials were filled with solutions of pyoktanin of from 1 to 1,000 to 1 to 64,000, and placed by the side of a bottle containing pure water, and in each vial was placed a piece of raw meat; the vials were then stoppered with cotton and placed in a thermostat kept at 25° C. Each one was examined once a day, twenty-four hours from the time of its last removal. That in the vial of water exhibited stinking putrefaction at the end of twenty-four hours. It was found that a solution as weak as 1 to 30,000 acts as an obstacle

to the development of putrefactive bacteria."

Prof. Stilling says:

"On the basis of all these experiments, the conclusion is reached that from a mere *botanical* point of view in the first place, pyoktanin is an agent *which, even in rather weak solutions, exercises a very marked restraint on the development and growth of bacteria;* whereas, *in somewhat stronger solutions, say 1 to 2,000 to 1 to 1,000, it acts as an absolute preventive* and surely destroys whatever bacteria are already present."

He also says:

"The best agents discovered in the experiments besides the blue pyoktanin were some compounds pertaining to the auramine group, the most eligible of which I shall, for distinction from the blue variety of pyoktanin hitherto described, denote yellow pyoktanin."

Prof. Stilling has written much more of this remedy. I have used it a good many times and can verify many of his statements:

"If used in the eye of a white rabbit, it will color the pink iris, and not the cornea if the latter is intact. If there

be an abrasion or broken surface on the cornea, the latter will become colored. It dilates the pupil, and does not affect the accommodation. Injected subcutaneously, the rabbit and the guinea-pig bear very large doses. If injected into the peritoneal cavity, very large doses will kill the animal. Death occurs from coloration, and thereby paralyzation of important nerve-centers; the blood is not affected. The abdominal cavity is remarkably dry. Rabbits ingest pyoktanin administered in their food in great quantities, without experiencing any disturbance."

As I stated before, my personal experience has been rather extensive. Pyoktanin solution, 1 to 1,000, dropped into the eye, causes but little pain. Numbers of cases of the milder affections of the conjunctiva, in which I had for some time used the usual remedies and not relieved, yielded readily to solutions of pyoktanin. I have on hand some new cases of trachoma which I have been treating for months with all the well known remedies, and which have shown remarkable changes for the

better under the use of pyoktanin, in pencil, applied daily. I have never seen cases of suppuration, or mucopurulent inflammations of the tear sac, yield as readily as they do under the use of 1 to 1,000 solutions of pyoktanin. In suppuration of the antrum, it alone, I think, is not so good as hydrogen peroxide, alone or followed by the pyoktanin solution.

I have been treating for some time a case of interstitial keratitis in which the anterior chamber was very deep, the iris umbilicated, and the pupil undilatable with any of the mydriatics with or without cocaine. I prescribed pyoktanin, blue, 1 to 1,000 solution, two drops in the eye three times a day, before meals, and atropia after meals. The next day the pupil was well dilated, and remained so as long as the pyoktanin was used. When left off, the pupil would return to its former condition. The corneal trouble also improved rapidly under its use. Two other cases on hand are doing equally well by the

use of pyoktanin. I have had some very favorable results from the use of pyoktanin in suppurative inflammations of the middle ear.

The main, and the only objection I know of to its use, is that it stains. The skin can be protected where pyoktanin is used in the eye by putting a little vaseline on the lids.

I direct my patients, when dropping pyoktanin solutions into the eyes, to lie flat on their back, drop in one or two drops and lift the lids so it can get into the cul-de-sacs, and wipe off what remains with a bit of cloth before getting up.

The blue solution rendered me quite a service the other day in a case of trauma, in which the cornea was ruptured and the iris and vitreous hung from the wound. I trimmed up all the shreds I could see hanging from the wound, and washed the eye out well with a solution of pyoktanin 1 to 1,000. It immediately colored some transparent shreds I had missed, thus enabling me

to clean the wound much better. The wound healed readily, although made with a dirty blunt instrument, there being consequently much contusion.

I believe if pyoktanin is used properly, it will be of much help to us in the management of many affections of the eye, ear, nose and throat. It is not a cure-all; let no one condemn it until he tries it thoroughly. The blue pyoktanin is not the well known methylene blue, but is a combination, by substitution, of some of the coal tar groups. "Pyoktanin" means "pus killer."

