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A case of duboisin poisoning



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[Reprinted from
THE PHILADELPHIA POLYCLINIC,
Vol. V, March 28, 1896, No. 13.]

A CASE OF DUBOISIN POISONING.¹

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CASES in which there exists an intolerance of duboisin, either when administered internally or when solutions are instilled into the conjunctival cul-de-sac, are not of such rare occurrence as to make it desirable that each new case should be reported.

As early as 1879 Nettleship² reported eight cases of poisoning from the instillation of several drops of a solution of this drug of the strength of 4 grains to the fluidounce, the symptoms varying from a slight transient giddiness to a violent delirium. In the same year a case was reported by Carl³ from the instillation into each eye of three or four drops of a solution of the same strength, and another by Tweedy,⁴ the latter case being one of iritis, the drug being employed to break up the synechiæ, as it was supposed to be much stronger in its action than atropin. Later, cases were reported by Chadwick,⁵ Kollock⁶ and others, but in all of the cases referred to the solution was of the strength of 4 grains to the ounce and in most of them several instillations were made before symptoms of poisoning were observed.

In the present case, however, the quantity of the drug giving rise to severe symptoms

was much smaller, and the rapidity with which these symptoms appeared was so marked that they give to the case additional interest.

Miss P—, aged 27 years, female, stenographer by occupation, consulted me in 1892 for constant headache, always much worse in the afternoons and towards the close of the day and never so bad on the days on which she was not obliged to work. There were also symptoms of accommodative asthenopia, some ciliary pain, a slight conjunctivitis, all of which were made worse by close application to her work. Her general health was very good beyond the strain and annoyance caused by her ocular symptoms.

Upon examination there was found to exist a compound hyperopic astigmatism, the axes being 135° and 45°, which was corrected with the use of cumulative instillations of homatropin hydrobromate as the cycloplegic. All of the eye-symptoms rapidly disappeared and she was able to perform her work with absolute comfort.

In 1895, a little more than three years from the time she had been glassed, she consulted me at my office, saying that she had accidentally broken her lenses, and inasmuch as some of the old symptoms had returned about a month before, she thought perhaps she might require some change.

After making the preliminary examination, she was directed to employ cumulative instillations of homatropin hydrobromate, as before; but, with a trial of two different solutions obtained from two different sources, it was found impossible to relax all of her accommodation. A solution of duboisin sul-

¹ Read before the Philadelphia County Medical Society, March 11, 1896.

² *London Lancet*, 1879, ii, p. 352.

³ *Klin. Monatsbl. f. Augenheilk.*, 1879, xvii, p. 337.

⁴ *London Lancet*, 1879, ii, p. 441.

⁵ *Brit. Med. Jour.*, 1887, i, p. 327.

⁶ *Medical News*, 1887, i, p. 344.



fate was then ordered, of the strength of 2 grains to the fluidounce, of which she was to instil one drop into each eye, three times a day.

The patient resided in one of our suburban towns, and, not understanding that it was necessary for her to use the drops on the day previous to the one upon which she was to come to my office, did not have any instillations made until she was ready to leave home on her way to the city to be refracted. On the train she felt somewhat heated and flushed, and, to use her own expression, her "brain felt as if too much champagne had been taken," she was so excited, and when she reached the station in the city, she found it almost impossible to walk. Taking a carriage, she was driven at once to my office, arriving there in about forty minutes from the time the drops were put into the eyes. She staggered into the reception-room, talking in an incoherent manner to my door attendant, so that it was at once reported to me that an intoxicated woman was in the office. I saw her at once, and, suspecting that either the duboisin or hysteria was the cause of the symptoms, immediately placed her on a couch in my library. In going from the office to the library, it was ascertained that she could not walk without assistance, and that her gait was of a dragging character seen in certain lesions of the spinal cord. She was intensely excited, talking in an incoherent manner and replying to all questions vaguely. Occasionally a proper reply to a question could be obtained, but most of the answers indicated delirium. The throat was exceedingly dry and the pupils moderately, but not fully, dilated. The face and hands were flushed, looking indeed not unlike a scarlatinous eruption, the pulse was small but strong and rapid, the number of beats a minute being 124, the respiration shallow and hurried, being 28 a minute. In half an hour the patient lost almost all control over herself, not being able to raise her head, arms or legs without assistance, though she was able at times to move her fingers. In regard to the latter movements, however, I was not sure they were not reflex. The

flushed condition was now disappearing and she was becoming pale in spots, the speech was reduced to a whisper now and then, and no proper replies to questions could be obtained. The pulse had also become soft and compressible, though but slightly reduced in rapidity, and the respirations were now 14 in a minute and still shallow. There seemed to be a partial anesthesia of the whole body.

The symptoms above described lasted for about three hours, when they began to disappear gradually. When control of the voice began to return there was a low, muttering delirium, lasting about half an hour before full control was gained. In four hours from the time the patient had arrived at my office she was able to take a carriage and go to a friend's house, after having given me a most uncomfortable morning.

On the following day she returned, accompanied by her sister, who had made the instillation of the solution on the preceding day and by whom I was assured that only one drop was placed in each eye, as I had cautioned the patient that the drug was poisonous and must be used very carefully. The probability of hysteria being the cause of the symptoms was excluded by correcting the refractive error with the use of atropin sulfate as the cycloplegic, and beginning its use at once, two instillations being first made at my office to ascertain if there was any systemic effect. I had the solution of duboisin sulfate examined and it contained only the quantity called for in the prescription, namely one grain to the half ounce of distilled water.

It is impossible to say accurately just how much of the drug was absorbed into the system. The point of the dropper was a very small one, so that it is probable that about $\frac{1}{240}$ of a grain was placed in contact with the conjunctiva. It is, however, improbable that all of this was absorbed.

The case is interesting and instructive in showing that so small a dose of this drug may give rise to such alarming symptoms.

