

The preparation was given to Rhalemann by Professor Kobert, with the information that after experiments on the lower animals by the internal administration of scopolamine, it showed an opposite effect to atropine, and that its influence on the cortex of the brain was not stimulating, like that of atropine, but on the contrary retarded its action. (Later on I shall have some comment to make on the erroneous character of these observations.) These last-named qualities led to the expectation *a priori* that the local special effects of the new remedy would be different, especially on the conjunctival blood vessels. Rhalemann, after using scopolamine both on normal and diseased eyes, came to the conclusion that as a mydriatic and antiphlogistic it surpasses all other tropeines, including atropine. In strength of mydriatic effect it resembles hyoscyne closely. The remedy does not produce the disagreeable after-effects and double vision which, according to his observations, occur in the use of hyoscyne; but it possesses all the advantages which belong to hyoscyne in comparison with atropine. He used it during a period of six months in all cases in which atropine is applicable, and also by way of comparison with atropine, and he has found that scopolamine is in many cases at least, equal to atropine, while in others it is entirely its superior; but the circumstances, says he, which will insure scopolamine an enduring place among ophthalmic remedies is that it can be used for a longer time in a solution, equivalent to a one per cent. solution of atropine, without producing the troublesome associated symptoms which so often make the continued use of atropine impossible. He further says—but this I do not believe—it is well known that atropine when used as an instillation for any length of time, disturbs the appetite. He has never seen this or similar effects from the use of scopolamine. It is only after very large doses of scopolamine that a feeling of dryness of the throat is produced. The state of restless nervousness, with or without reddening of the face, and quick pulse, which is so often found in patients treated with atropine, never occurred after the use of scopolamine. In cases of incipient atropine poisoning, or in an idiosyncrasy toward atropine, scopolamine renders therefore the best service, since it more than supplants atropine in its local effect, and completely destroys its general effect.

In cases of iritis, episcleritis, with infiltration of the sclerotic, etc., when atropine could not be any longer endured, when the powers of the body were depressed on account of want of appetite, and the general condition of the body was as unfavorable as possible, scopolamine not only improved the eye disease, but also the general health. The remedy surpasses atropine in its influence on pericorneal injection, and possesses special advantages in suppurative keratitis, serpent ulcer, and iridocyclitis. As is known, under these circumstances, especially in suppurative keratitis, serpent ulcer and iridocyclitis, atropine is often inadvisable. But Rhalemann has found in five cases that scopolamine caused a diminution in the size of a hypopion. Scopolamine seems to act far more favorably on suppurating tissues than atropine, probably through its effect on the blood vessels. Scopolamine does not seem to increase intra-ocular pressure, even if there is a pathological increase of tension. If there is a pathological increase of tension the remedy can be borne; therefore it is an indispensable drug in inflammatory conditions, especially in iritis, when they occur in glaucomatous eyes. He has used scopolamine with advantage in several cases of chronic inflammation with secondary glaucoma. In one case of absolute glaucoma with great irritation, strong ciliary injection and hyphæmia, the pain ceased, the eye became quiet, and the blood disappeared from the anterior chamber under the influence of this drug. He has not tried it in acute glaucoma. Hydrochlorate of scopolamine acts five times as powerfully as atropine. It paralyzes, like the latter, and in the same degree, the sphincter of the iris, and the accommodation. The duration of the effect is one-fifth per cent. scopolamine compared with one per cent. atropine. (With homatropine or sulphate it is not stated.) The duration of the effect is about the same—perhaps somewhat shorter with scopolamine than with atropine. It is to be used in solutions of 1 to 2 *pro mille* ($\frac{1}{10}$ to $\frac{1}{5}$ per cent.), which solutions correspond in dose to $\frac{1}{2}$ and 1 per cent. solutions of atropine. Six to seven drops may be used daily in an adult, or it may be used every fifteen minutes during one, or one and a-half hours. With children correspondingly weaker solutions are to be used. It operates best when used in divided doses.—(Report on Therapeutic Progress, *Therapeutic Gazette*;