TABLE II.

No. of lymphocytes added	0	150,000	300,000	400,000	450,000	800,000
No pepsin	—	0	0	—	0	0
Merck's pepsin 0.35 per cent	3.6	3.6	3.5	—	—	3.3
Dog gastric juice (unfilt'd)	2.0	1.9	—	1.9	—	1.8
Dog gastric juice (filtered)	1.9	1.9	1.8	1.8	1.7	1.7

The results are given in mm.

These results do not lend support to the theory[2, 3] that the lymphocytes play a role in the peptic digestion of gastric juice.

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Effect on the eye of instillations of a ten per cent solution of pseudo-ephedrine.

HARVEY J. HOWARD and T. P. LEE.

[*From the Department of Ophthalmology, Peking Union Medical College, Peking, China.*]

The alkaloid pseudophedrine is the dextroisomer of ephedrine. The salt used in our experiments, as prepared by Chou,[1] was the hydrochloride ($C_{10}H_{15}ON.HCl$) with a melting point of 179 to 181° C, and an optical rotation of $(\alpha)_D^{22°}$ C. + 58.75. It was very soluble in water and alcohol.

Experimental tests with a 10 per cent solution of pseudoephedrine were made on the eyes of thirteen individuals. The object of the tests was to determine what effect, if any, the drug has upon the acuity of vision, the sensitivity of the ocular mucous membrane, the intra-ocular tension, the pupil, the range of accommodation, the near-point of convergence, or in producing any other symptoms. subjective or objective. A record was first made

[2] Ohno, R., *Mitteil a. d. med. Fakultät d. Kaiserl.* Kyushu Universitat, 1924, lx, 307.

[3] Pavlovsky, A. J., *Semana med.*, 1920, xxvii, 398.

[1] Chou, T. Q., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiii, 618.

of each subject's normal function. One drop of the solution was then instilled into each eye every two minutes for five doses. Subsequent observations were made at intervals of ten or fifteen minutes for a period of several hours.

RESULTS.

1. Vision: Six subjects had a slight diminution of vision, probably due to a moderate but uniform edema of the epithelial cells of the cornea which produced the effect of looking through a faint mist. One subject's vision was slightly increased, due possibly in his case to a spasm of the ciliary muscle, he being a hyperope. The remaining six subjects showed no change in visual acuity. On the whole the effect on acuity of vision may be considered as negative.

2. Anesthesia or hyperesthesia: There was neither loss nor increase of sensitivity of the cornea and conjunctiva.

3. Intra-ocular tension: A Schiötz tenometer, which measures the tension in millimeters of mercury, was used. No effect was obtained in the subjects observed. This result is different from that obtained with adrenalin or epinine which lower the intra-ocular tension. This test was not made upon all the subjects, since the test in itself was unpleasant. Furthermore, it was necessary, every time the tension was taken, to produce a temporary anesthesia of the cornea by instillations of holocain.

4. Mydriasis: Eight subjects showed no change in the size of the pupils. Five developed a partial dilatation of the pupils twenty to thirty minutes after the first instillation. The maximum dilatation that was produced, occurred forty to sixty minutes after the instillations were begun, and from then on the mydriasis slowly subsided. The increase in the size of the pupil varied from one to four millimeters. The mydriasis lasted from one to six hours.

5. Range of accommodation and near-point of convergence: Four subjects showed no change. One developed a moderate spasm of accommodation of three hours' duration. The remaining eight subjects showed either a slight or a moderate decrease in the power of accommodation, which was first apparent about thirty minutes after instillation. The maximum decrease was recorded at about the end of the first hour. The loss of accommodation varied from one-half to three dioptres and lasted from two to six hours. The average loss was about one dioptre. A

slight recession of the near-point of convergence occurred in association with the loss in the power of accommodation.

6. Other symptoms: a. Subjective: All the subjects complained of an immediate smarting and burning sensation produced by the instillations. The last drop caused as much discomfort as did the first, confirming the direct test that no anesthesia was developed.

All developed an intense lacrymation, which lasted for about twenty minutes.

All noticed a bitter taste like that of homatropine hydrochloride. Several spoke of a distinct sensation of distension of the eyeball, although tests for tesnion proved negative.

Several complained of a dull frontal headache which came on during the course of the second hour and lasted for three or four hours; one of these subjects developed nausea.

Several complained of a dryness of the conjunctiva, as well as of the skin of the eyelids, after the first thirty minutes.

b. Objective: All the subjects developed a marked congestion of the superficial vessels of the palpebral and bulbar conjunctiva, which lasted for about twenty or thirty minutes. The appearance of the conjunctiva then became normal, but was not followed by a blanching. No proptosis of the eyeball nor widening of the palpebral fissure was observed.

SUMMARY.

1. Pseudoephedrine in a 10 per cent solution is an uncertain mydriatic and cycloplegic. The age of the individual does not seem to be a factor. There does exist, however, an individual difference, probably due to a variation in the rate of the absorption of the drug.

2. The action of pseudoephedrine upon the eye is like that of homatropine, rather than like adrenalin, which it closely resembles chemically.

3. In 10 per cent solution pseudoephdrine is slightly toxic when instilled into the eye.

4. There is no clinical evidence that pseuodephedrine contracts the blood vessels as does ephedrine which confirms the laboratory studies upon frogs performed by M. Fujii.[2]

5. Pseudoephedrine in a 10 per cent solution apparently has

[2] Fujii, M., *Manshu Igaku (J. Oriental Med.)*, 1925, iii, 1.

no place in the treatment and examination of ophthalmic diseases. A stronger solution would undoubtedly be a more active mydriatic and cycloplegic but would be too toxic to justify its use.

6. The results of these experiments do not wholly agree with those of Lewin-Guillery.[3]

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Some similarities between the dystentery amoeba of the monkey and of man.*

JOHN F. KESSEL.

[*From the Parasitology Laboratory, Department of Pathology, Peking Union Medical College, China.*]

The dysentery amoeba of the monkey and that of man are so similar in structure that some regard them as probably being the same species, though other investigators have given them different species names. In an attempt to procure experimental evidence on this question two monkeys found to be amoeba-free were fed cysts of *E. dysenteriae* of man. Examination of the feces during a period of three months and of histological sections following autopsy showed the presence of cysts and trophozoites of *E. dysenteriae,* morphologically and racially indistinguishable from the amoeba fed, thus indicating that the dysentery amoeba of man may be experimentally established in the monkey. Subsequently, two cats, six months and seven months of age respectively, found negative for protozoa by preliminary examination, were given rectal injections of monkey feces containing cysts of the dysentery-like amoebae of a naturally infected monkey, using the technique of Boeck and Drbohlav.[1] Two months later, autopsy of the cats showed the amoebic infection to be well established in the upper colon and cecum, where there was excessive mucous, pronounced hyperemia, and a distinct thickening of the gut wall. Trophozoites of amoebae, many of which contained red blood

[3] Lewin-Guillery, *Wirkungen von Arzneimitteln und Giften auf des Auge,* Berlin, 1913, S. 204.

* Contribution No. 74.

[1] Boeck, W. C., and Drbohlav, J., *Am. J. Hyg.*, 1925, v, 371-407, 4 pls.