correction of hypotension was followed by a marked increase in bile production.

CONCLUSIONS

Intravenous injection of extract of aloe increases the flow of hepatic bile in the anesthetized dog. The duration of action is relatively long.

Intravenous injection of resin of podophyllum increases the flow of hepatic bile in the anesthetized dog. This action apparently reaches a maximum within two hours after the injection.

Intravenous injection of rosin has no effect upon the biliary flow under the above conditions.

There is a critical level of blood pressure necessary to the maintenance of biliary flow. Evidence presented indicates this to be approximately 60 mm. of mercury for the dog.

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The Assay of Yellow Mercuric Oxide Ointment, U. S. P. XI*

By F. N. Van Deripe and R. A. Konnerth†

The U. S. P. XI assay method for mercury in Ointment Mercury Oxide has given satisfactory results when used on freshly prepared ointments, but not on aged samples. With the latter the figures are lower than those obtained initially on the same samples. This is not due to any loss of mercury from the ointment, but presumably to some change whereby the mercury becomes combined in some form which is unavailable under the conditions of the U. S. P. XI assay. For example, it might gradually react with acids in the ointment base to form mercury soaps in which the mercury is no longer available in so far as the U. S. P. XI assay is concerned. That this is the case has been indicated by the fact that aged samples with a low U. S. P. XI assay value have given results close to the original ones when a somewhat different analytical method (1) is employed whereby the entire mercury content of the sample is determined. These findings show not only that the U. S. P. XI method may with aged samples give results lower than the total mercury present, but also that upon aging changes do occur slowly whereby a small portion of the mercury in this ointment enters into a different state of chemical combination.

EXPERIMENTAL

A laboratory preparation of Ointment Mercury Oxide Yellow, U. S. P. XI, showing 1.01% mercuric oxide by the U. S. P. XI method and 1.03% by the method described below was stored at room temperature and 105° F. for periodic assay by both methods.

Assay.—Weigh accurately (within 0.0005 Gm.) about 2.5 Gm. of the sample and transfer into a dry beaker of about 250 cc. capacity. Dissolve directly by warming on a water bath to 50° C. with 100 cc. of a solvent mixture consisting of benzene, 13 parts by volume, acetic acid (glacial), 2 parts, and alcohol

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Table I

	Initial Assay, Per Cent	Storage Conditions	Reassays after Storage, Per Cent ½ Mo.	1½ Mo.	13½ Mo.	25½ Mo.
U. S. P. XI method	1.01	Room temp.	1.02	1.01	0.92	0.86
		105° F.	..	1.04	0.83	..
Experimental method	1.03	Room temp.	1.02	1.01	1.02	1.00
		105° F.	..	1.01	1.00	..

(90%), 5 parts. The resulting clear solution is treated with a rapid stream of hydrogen sulfide gas to precipitate the mercury; precipitation is complete within 10 minutes and the mercuric sulfide settles quickly in a granular form. Warm the beaker and its contents to about 50° C. Collect the mercuric sulfide on a dried, weighed, asbestos-prepared Gooch crucible using a filter pump. Rinse the hydrogen sulfide inlet tube, the beaker and the precipitate on the Gooch with hot benzene and then with a little alcohol. Any particles of mercuric sulfide adhering to the walls of the beaker are removed and transferred to the filter by a final rinse with warm water. Dry the precipitate to constant weight at 120° C. and weigh accurately (within 0.0005 Gm.). The weight of mercuric sulfide found multiplied by 0.9310 equals the weight of mercuric oxide.

DISCUSSION

The results are shown in Table I.

This tabulation shows clearly that after a period of approximately a year the U. S. P. XI method does not determine all of the mercury.

In addition it may be noted here that the experimental method offers greater ease of manipulation. There is some difficulty encountered in the U. S. P. XI method at the very beginning where the 10-Gm. sample has to be introduced into a separatory funnel and then mixed with the ether. Later after the hydrochloric acid and water have been added, vigorous shaking is directed to dissolve the mercuric oxide. This, in our hands, has resulted in emulsions which sometimes resist separation and, instead, forms a gelatinous intermediate layer interfering with the subsequent filtration and making the washing and draining long and tedious.

CONCLUSION

The modified assay method described herein measures the total mercury content of Ointment Mercury Oxide Yellow, U. S. P. XI, even after aging and even though some of the mercury oxide has undergone change to form something in which the mercury is in a different state of combination. It is superior to the U. S. P. XI method in speed and simplicity.

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Preliminary Antispasmodic Tests of a Series of Morpholino and Some Other Compounds*

By L. W. Rowe†

For more than two years a group of morpholino and some other compounds, which were synthesized by research chemists in our laboratories (1), have been subjected to preliminary pharmacological tests in an effort to select a very limited number of the most promising for more thorough investigation. The results of the detailed study on a more limited number of compounds will be reported later by another group (2).

The method used for determining relative antispasmodic action was that of Magnus (3, 4) in which excised intestinal strips from guinea pigs or rabbits were suspended in warm, oxygenated Locke-Ringer Solution and exposed alternately to definite concentrations of the unknowns and of

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