originates in the liver and not the gall bladder. This is confirmed by the fact that fluids drawn from the gall bladder in 2 cases of hydrops of the gall bladder with stones in the cystic duct, both failed to yield the characteristic reaction.

Our results indicate a significant difference from the normal in the bile from cases of cholelithiasis. The alteration in the composition of the bile responsible for the precipitate probably does not originate in the gall bladder. Further work on this problem should shed light on the origin of gall stones.

It is a pleasure to acknowledge the aid and direction of Dr. Samuel Soskin.

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Peptic Ulcers Produced by Feeding Cincophen to Mammals Other than the Dog.

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Churchill and Van Wagoner[1] demonstrated that gastric and duodenal ulcers can be regularly produced in dogs by administration of cincophen. Cases of alleged cincophen poisoning in man have not been characterized by such ulcers. It appeared desirable, therefore, to determine whether this effect in the dog is a species-selective phenomenon.

Cats, rabbits and guinea pigs were given cincophen orally suspended in cotton seed oil. The dosages were calculated according to the principle used by Churchill and Van Wagoner, *i. e.*, on the basis of 22 mg. per kg. body weight which corresponds to the human dose of 7.5 grains t.i.d. for the average adult of 150 lbs. During the experiment the animals received the usual care given to the particular type of experimental animal. In each case the postmortem examination was done as soon after death as possible.

The following tables give a resumé of the results.

Results with Cats

Cat No. 1. 2 doses each 10x N.H.D.* Death on second day. A few superficial erosions in gastric mucosa up to 4 mm. in diameter.

1 Churchill and Van Wagoner, PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 581; *Arch. Path.*, 1932, **14**, 860.

* N.H.D. Normal Human Dose.

Cat No. 2. 4 doses each 10x N.H.D. Death on 5th day. Numerous erosions and one ulcer 1.5 cm. in diameter, chiefly in the fundus of the stomach.

Cat No. 3. 12 doses each 5x N.H.D. Death on 14th day. Two superficial ulcers 4 and 7 mm. respectively, on lesser curvature near pylorus.

Cat No. 4. 17 doses each 2½x N.H.D. Death on 17th day. No ulcers in stomach.

Cat No. 5. 47 doses each 1x N.H.D. Death from peritonitis on 54th day. Perforating ulcer 3x10 mm. near the cardia. Several superficial ulcers up to 4 mm. on lesser curvature.

Cat No. 6. 62 doses 1x N.H.D. Death on 67th day. No ulcer. Large intestine contained several superficial ulcers and was edematous and hyperemic.

Results with Rabbits

Rabbit No. 1. 7 doses each 10x N.H.D. Death on 8th day from bronchopneumonia. No ulcers.

Rabbits Nos. 2 and 3. 87 doses each 10x N.H.D. Sacrificed on 99th day. No ulcers.

Rabbit No. 4. 31 doses each 25x N.H.D. Death on 35th day from bronchopneumonia. No ulcers.

Rabbit No. 5. 66 doses each 25x N.H.D. Sacrificed on 76th day. No ulcers.

Results with Guinea Pigs

Guinea Pig No. 1. 14 doses each 10x N.H.D. Death on 17th day. No ulcers.

Guinea Pig No. 2. 19 doses each 10x N.H.D. Death on 68th day. No ulcers.

Guinea Pig No. 3. 11 doses each 10x N.H.D. Death on 15th day. No ulcers.

Guinea Pig No. 4. 15 doses each 5x N.H.D. Death on 17th day. No ulcers.

Guinea Pig No. 5. 90 doses each 2½x N.H.D. Sacrificed on 107th day. No ulcers.

Summary and Conclusions. 1. Cats were found to be very susceptible to the toxic effects of cincophen. They survived daily doses 10x N.H.D. from 2 to 5 days, and 1x N.H.D. for only 62 days. Four of the 6 cats used developed gastric ulcers, one of which perforated.

2. Rabbits are very resistant to cincophen. None of our animals died from the effects of the drug. One survived 66 doses, each 25x N.H.D., without apparent injury. None developed gastric ulcers.

3. Guinea pigs are moderately resistant to the toxic effect of cincophen. They withstood from 11 to 19 doses each 10x N.H.D. for 2 weeks or more, and one animal survived 90 doses each 2½x N.H.D. None developed gastric ulcers.