Pectin as a Prophylactic and Curative Agent for Peptic Ulcers Produced Experimentally With Cinchophen

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It has been well established that the administration of cinchophen to dogs will produce chronic peptic ulcers (1, 2, 3, 4 and 5). Pathologically such ulcers have been found to be identical with the peptic ulcers seen in man and are similar in progression and healing. In work on the prophylactic treatment of such experimentally produced ulcers, Reid and Ivy (2) found that gastric mucin was markedly effective in preventing the gastroduodenal ulcers and “acute” toxicity of the cinchophen in dogs. Stalker et al (3, 4 and 5) reported some benefit from the use of the diet and procedures were performed aseptically under sodium ether anesthesia. The mucin appeared definitely beneficial in some cases, although the administration of cinchophen to dogs will produce chronic peptic ulcers. In general our procedure followed that of Reid and Ivy (2). Thirteen healthy dogs were used. Both cinchophen and pectin were given to the 9 dogs in the experimental group, while the 4 control dogs received only the cinchophen. The cinchophen was made into a starch paste (20 gin. cinchophen, 40 gm. starch and 2000 cc. water) and given in a dose of 100 mg. per kilo to each dog daily. The dogs in the experimental group were given 180 cc. of the 3% solution 4 or 5 hours before the cinchophen and a second solution one hour before the cinchophen and a second solution one hour before the cinchophen. In the control group one dog was sacrificed on the 36th day and exploratory gastrotomies were performed on the other 3 on the 46th, 50th and 54th days. In these latter animals ulcers were demonstrated, then photographed and the incisions closed. All surgical procedures were performed aseptically under sodium amytal anesthesia. Following the finding of the ulcers the cinchophen was continued uninterrupted during the postoperative period and in addition, pectin was administered. In the control group, while the 4 control dogs received only the cinchophen. The cinchophen was made into a starch paste (20 gin. cinchophen, 40 gm. starch and 2000 cc. water) and given in a dose of 100 mg. per kilo to each dog daily. The dogs in the experimental group were given 180 cc. of the 3% solution 4 or 5 hours later. The solutions were all given by stomach tube and the regular stock diet of Purina dog chow, baker's bread and fresh meat was fed to all of the dogs. The administrations of cinchophen and pectin were continued in the experimental group until the dogs were sacrificed on the 62nd, 64th and 96th days. In the control group one dog was sacrificed on the 26th day and exploratory gastrotomies were performed on the other 3 on the 46th, 50th and 54th days. In these latter animals ulcers were demonstrated, then photographed and the incisions closed. All surgical procedures were performed aseptically under sodium amytal anesthesia. Following the finding of the ulcers the cinchophen was continued uninterrupted during the postoperative period and in addition, pectin was administered.

REFERENCES

10. Preliminary observations on twenty Mann-Williamson dogs indicate that: (a) Urine from normal individuals contains a “protective” factor against Mann-Williamson ulcers. (b) This “protective” factor is definitely absent from the urine of patients having peptic ulcer.
given as in the experimental group. One of these dogs died on the fourth postoperative day and the other 2 were sacrificed on the 21st and 25th postoperative days. At the end of the experiment all the animals were killed with chloroform. The gastro-intestinal tracts of all animals were examined completely. Photographs of the stomachs and any suspicious areas of the stomachs and intestines were taken. Sections of these areas along with portions of the liver, kidney and adrenal gland were removed from each dog for

Fig. 1a. Lesion in stomach of control Dog 10 found during exploratory gastrotomy. Dog had received 100 mg. cinchophen per kilo 90 days.

Fig. 1b. Normal appearing stomach of same dog after 25 days of cinchophen and pectin treatment.

Fig. 2a. Lesion in stomach of control Dog 11 found during exploratory gastrotomy. Dog had received 100 mg. cinchophen per kilo 54 days.

Fig. 2b. Same dog after 21 days of cinchophen and pectin treatment. Ulcer completely healed.