sure(7,8) and splanchnicotomy(9-11) suggest that the nervous system may influence renal electrolyte excretion. The author is not aware of studies similar to the present one.

These results are preliminary. Further studies are planned.

Summary. In anesthetized dogs, bipolar stimulation (0.5 volt, 5/sec.) of the caudal portion of the floor of the fourth ventricle resulted in increased renal excretion of sodium and chloride, and a smaller increase in potassium excretion in 5 instances, slight changes in 3, and decreased excretion in 2. In 2 dogs, increasing the stimulus to 1 volt resulted in a decreased excretion rate of these electrolytes.

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Identification of Cystine Calculi in Mink. (22327)

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Leoschke, Zikria and Elvehjem(1) in quantitative analyses of 31 urinary calculi from mink revealed the main constituent to be magnesium ammonium phosphate, accompanied by small amounts of calcium phosphate and magnesium phosphate. Sompolinsky(2), on the basis of qualitative analyses of 26 stones classified 12 as pure magnesium ammonium phosphate, 13 as magnesium ammonium phosphate plus calcium and 1 as magnesium ammonium phosphate plus calcium and urate.

Observations on bladder stones from mink submitted to the Veterinary Diagnostic Laboratory at Oregon State College have generally indicated an inorganic-type structure. Recently, however, a male mink was presented whose bladder contained 140 small creamy-white colored, smooth, irregularly-shaped calculi and these when submitted to normal ashing procedures proved to be wholly organic matter. Total oven dry weight of the calculi was 1.023 g. The appearance and size of these calculi are indicated in Fig. 1.

Observations. Qualitative analyses of these stones were carried out in the sequence proposed by Hawk, Oser and Summerson(3). These tests indicated strongly the presence of cystine.

Further identification was made by means of Sullivan's reaction which is reported to be specific for cystine(4). A few mg of powdered calculus were taken up in 5 ml of approximately 0.1 N HCl and 1 ml each of 1% NaCN in 0.8 N NaOH and 0.5% aqueous 1, 2-napthoquinone-4-sodium sulfonate were added. These were followed by the addition of 5 ml 15% Na_2SO_3 in 0.5 N NaOH and the mixture was allowed to stand 30 minutes. On

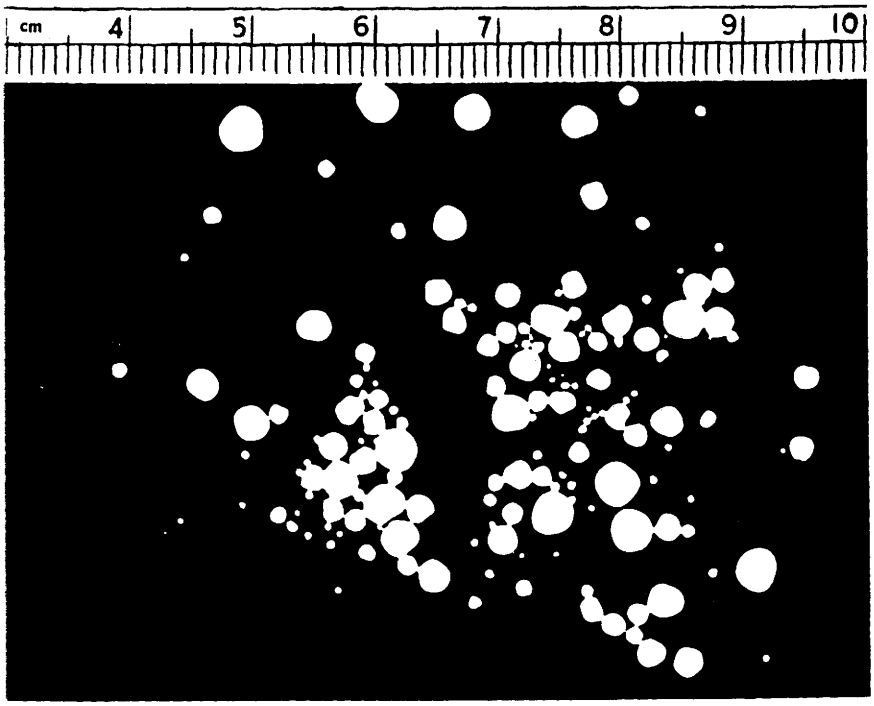

FIG. 1. Cystine calculi from the bladder of a mink.

addition of 1 ml of 2% aqueous sodium dithionite ($Na_2S_2O_4$) a clear red color developed. This test was checked against pure DL cystine with positive results.

Finally, a quantitative test for cystine was carried out upon the dried, ground calculus material, following the method of Lugg(5), using a phosphotungstic acid reagent prepared according to directions of Folin and Marenzi (6). This test revealed the stones to be essentially completely (99%) cystine.

Discussion. Occurrence of cystine calculi in the bladder of dogs, first noted by Lassaigne in 1823(7), has since been reported by several workers(8-11), however, no reference to this type of stone in mink has been found in the literature. It is interesting that the case cited herein involved a male mink, since studies with humans and with dogs(8) have indicated that cystinuria is mainly confined to the male sex, however, this may be due to the constriction of the urethra in the male, where even small stones of the cystine type might cause stoppage.

The diet fed on the ranch where the cystine calculi occurred was not unusual, consisting of approximately 55% Pacific coast fish, 25% tripe, 10% liver and 10% commercially prepared cereal mixture. Since rations fed ranch mink are customarily high in animal protein, however, there may be some dietary predisposition towards high cystine excretion.

Summary. One hundred forty small (0.3 to 3.1 mm dia.) calculi were obtained from the bladder of a male mink on autopsy. Both qualitative and quantitative analyses of these stones indicated that they were almost entirely composed of cystine.

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Effect of Lyophilization and Chloroform Extraction on Electrophoretic Migration of Serum Lipoproteins.* (22328)

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It has been shown that when serum from normal human subjects was lyophilized and extracted with cold chloroform for 3 hours only a small percentage of the total serum cholesterol was extracted(1). This fraction has been designated the "readily extractable cholesterol"—REC. The value for the REC fraction was shown to be 40 mg % or less in 98% of 687 subjects between the ages of 17-33 years, but the percentage of subjects with extraction values above 40 mg % was found to increase up to about the fifth decade(2,3). This was especially marked in the executive and professional groups studied. Subjects with coronary infarction or with atherosclerotic heart disease showed a still higher percentage with elevated extractions.

In an attempt to obtain information concerning the lipoprotein fractions from which the cholesterol was extracted, paper electrophoretic studies were carried out on a) original serum, b) reconstituted lyophilized serum, and c) reconstituted chloroform-extracted, lyophilized serum. Lyophilized sera were reconstituted by the addition of an amount of water equal to the original volume of serum, namely, 0.5 ml. Since the volume occupied by the serum solids was ignored, the concentration of the various substances in these solutions was slightly less than in the original serum.

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Method. A Kelab paper electrophoresis apparatus was employed using Whatman #3 filter paper strips (4.6 x 35 cm) with a barbital-sodium acetate buffer of pH 8.6 and ionic strength .05. Three paper strips separated by plastic strips were used in each of the 2 compartments of the apparatus, thus making a total of 6 strips for each run. To each of the strips at a line 12 cm from the cathode end, 0.05 ml of the test solution was applied. The electrophoresis was run for 15 hours at 5°C unless otherwise stated, with 1.2 ma per strip and a potential of approximately 210 volts. The strips were removed from the apparatus at the end of the electrophoretic procedure and processed as follows: 2 strips were dried at 100°C for 45 minutes, then stained for protein with bromphenol blue according to the method of Köiw, *et al.*(4); 1 strip was air dried and stained for lipids with Sudan black-B; and the remaining 3 strips were kept moist by suspending them in a 1000 ml cylinder containing about half an inch of water and covered with an inverted Petri dish to reduce evaporation. As soon as the position of the proteins along the stained strips was determined, which seldom exceeded 90 minutes from the time the strips were suspended in the cylinder, the wet strips were cut as indicated below, the sections transferred to 25 ml glass-stoppered Erlenmeyer flasks, and approximately 17 ml of a 1:1 mixture of ethyl alcohol and ethyl ether added to each flask. Eight sections were prepared: 1) the albumin area which also included the alpha$_1$-globulins, 2) the area between the al-