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Sulphate Retention following Bilateral Adrenal Extirpation

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The table shows an increased amount of interfollicular tissue in all thyroids from guinea pigs in chronic scurvy. This is interpreted as an indication of pathology in the thyroid as a result of scurvy. The hemorrhagic condition is further indication ot abnormality.

Investigation is being continued.

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SULPHATE RETENTION FOLLOWING BILATERAL ADRENAL EXTIRPATION

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Introduced by GILBERT L. HOUSER

Previous experiments by the senior writer have clearly shown that the cause of death following adrenal removal is an acid intoxication probably due to phosphoric and unknown organic acids. In the absence of the hormone of the adrenal cortex, the kidney fails to function properly with the result that marked acid and nitrogen retention occurs. In our previous work on the acid-base equilibrium the acid values of the serum protein, bicarbonate, chloride, and phosphorus were calculated. Total acid was taken as the sum of all the determined acids. Organic acid was calculated by subtracting total acid from total base and included the sulphate ion.

It was found impossible to obtain sufficient blood from cats to determine the acid-base equilibrium and for sulphate determination at the same time. Recently however, in a series of experiments performed upon dogs it has been found that a marked retention of sulphur (as sulphate) occurs following bilateral adrenal removal. The sulphur content of normal unoperated (or unilaterally operated) dogs varies from .6 of a milligram to 2 mgm. per 100 cc. of blood. Following the onset of serious symptoms of adrenal insufficiency the sulphur of the blood rises markedly. A few hours before death the sulphur may be 12-13 mgm. per 100 cc. of blood. It seems probable that sulphate retention is an important contributing factor in the acid intoxication of adrenal insufficiency.

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