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Effects of Certain Pyrimidines on the Sulfur Metabolism of Dogs.

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It was observed by Cerecedo[1] that after feeding isobarbituric acid to dogs there was a distinct decrease in the urinary output of inorganic sulfates and a corresponding rise in the ethereal sulfur fraction. These findings led him to assume that isobarbituric acid was partly excreted in the urine in conjugation with sulfuric acid, as an ethereal sulfate.

The present investigation represents an extension of the previous work. After feeding isobarbituric acid in doses of 2.5 gm. to dogs, which were maintained on a nitrogen equilibrium, we found that 60-80% of the substance was metabolized to urea, 20-25% excreted as ethereal sulfate, and the remainder eliminated unchanged.

Very striking is the effect of the ingestion of isobarbituric acid on the neutral sulfur fraction in the urine. We observed that after the feeding of the substance there was no detectable amount of neutral sulfur excreted. The disappearance of the neutral sulfur was also observed after the ingestion of isodialuric acid. These observations lead us to assume that in the catabolism of these compounds a sulfur containing substance is involved, which is normally present in the neutral sulfur fraction of the urine.

From the urine of dogs which had ingested isobarbituric acid, we have been able to isolate a compound in form of its xanthydrol derivative. The analytical results so far obtained indicate that we are dealing with dixanthydryl isobarbituric acid sulfate.

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[1] Cerecedo, L. R., *J. Biol. Chem.*, 1930, **88**, 695.