

the pharmacopoeial requirement that in the manufacture of the Extract of Physostigma a mixture of 3 volumes of alcohol and 1 volume of water should be used as the menstruum, it is hard to say. We find that a menstruum of 3 volumes of alcohol and 1 volume of water answers admirably in making the tincture. That the drug is completely exhausted is shown by the fact that the last 50 mils of the percolate gave no precipitate with Mayer's Reagent. The finished tincture conformed to the required alkaloidal standard.

UROROSEIN.*

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Indican (indoxyl-potassium-sulphate) is not the only product of intestinal putrefaction of proteins. Urorosein is of equal or even greater significance. The reporting of no excess of indican without testing for urorosein is not only a serious omission in a complete urine analysis, but misleads because it suggests no intestinal intoxication.

For some years clinicians have been paying more and more attention to the presence of ethereal salts in the urine (indicative of putrefactive decomposition of the proteins in the intestine). These salts are esters of phenol, indol, and skatol. Indican is perhaps the most widely known and easily recognized. It is readily oxidized to indigo blue, and can be shaken out with chloroform in which substance the indigo is soluble. Indican is not the only product of the decomposition of aromatic amino acids. Another equally or even more important, cromogen, can be isolated in the same manner; it is, however, insoluble in chloroform and soluble in amyl alcohol. The color of this solution is red, and indicates the presence of another ethereal salt. It has been given the name, urorosein. It is probable that urorosein is in reality indole acetic acid; that skatol is formed from urorosein, and may be one step in the formation of indole from tryptophane.

The purpose of this paper is not to study the complex chemical problems presented by these products of intestinal putrefaction; its only object is to point out the necessity of making a test for urorosein, in each specimen, at the same time that an examination for indican is made.

When we consider that our limited knowledge of these substances points to a chemical and physiological similarity with histidine, adrenaline, and the active principles of ergot, the probability develops that these ethereal salts are responsible for the production of high blood pressure, and the resulting sequelae. Having observed the importance of these substances, it matters little whether one or more are reported, provided they occurred in equal or proportionate quantities. However, a slight excess of indican is frequently encountered and an enormous excess of urorosein, or *vice versa*. In fact, in hundreds of analyses, of which we have records, no excess of indican is observed, while urorosein is present in large excess. We often observe that after a patient, who has an excessive amount of indican, is placed on a meat-free diet, the indican disappears and the urorosein remains excessive. This suggests the possibility that other proteins than found in meats, when present in the intestines in large amount, produce urorosein.

It is to be hoped that the observations set forth here will impress the laboratory worker with the importance of making tests for urorosein, regardless of whether indican is present or not. Only then will the true extent of intestinal toxemia be fully realized.

* Read before Scientific Section, A. Ph. A., New York meeting, 1919.