

observed, thrown down by the centrifuge ; no leucin nor tyrosin. If we now shake some of the urine in a test tube with chloroform, you notice as the chloroform settles to the bottom that it is tinged yellow,—a proof that bile pigment, which is soluble in this reagent, was present. A common test for bile in the urine is Gmelin's. If we pour some urine on this white slab, and near it some fuming nitric acid, you will observe that as they come together a play of colors is produced—green, blue, violet, red, and various shades of yellow from the point of contact outwards in this order, each change representing progressive degrees of oxidation of the bilirubin. Other tests for bile pigment, such as those of Huppert and Ultzman, are sometimes employed. It is well to remember that bile can be detected in the urine some time before obstruction to its outflow into the duodenum is evidenced by the yellow coloration of the skin.

Jaundice, as already stated, is only a symptom, and may result from any cause which obstructs the flow of bile into the duodenum, when it is designated hepatogenous ; but it sometimes depends on destruction of the liver cells and suppression of their functions where no obstruction exists, as in acute yellow atrophy of the liver and certain forms of hypertrophic cirrhosis, and in malaria, pernicious anæmia, yellow fever, typhoid fever, epidemic jaundice, pyæmia, and such toxic influences on the blood as are exercised by snake-bites, phosphorus, mercury, chloroform, ether, etc., here more red blood corpuscles are destroyed than the liver, spleen and kidneys can dispose of, and hence their hæmoglobin changed into bilirubin accumulates in the tissues. The jaundice in such cases is said to be hæmatogenous.

Now, if we compare the history of this patient's case with that of any of this latter group, we will find that the symptoms do not correspond. In acute yellow atrophy, the disease is observed most commonly in the pregnant female ; there is an acute parenchymatous hepatitis, with rapid diminution in the size of the liver, the urine contains leucin and tyrosin, there is maniacal delirium and extreme prostration, death occurring usually inside of a week. In that variety of hypertrophic cirrhosis accompanied by jaundice, the cirrhosis being primary, the liver is very much enlarged, and the jaundice lasts for years, and the stools are normal in color, as obtains in most of this group. The color of the skin in all these cases is much lighter than in the obstructive form, being of a light lemon tint. The list of toxic influences are easily