

Their conclusions, to give their own words, is that "the gravid organism is saturated with poisonous end products of its metabolism, or at least, it is inclined to be overloaded with the same, as its blood serum is more toxic than that of the non-gravid, and the urine positively less poisonous. \* \* \* The eclamptic serum is also more poisonous than that of the normal parturient, yet in some cases it produces a specific action upon the kidneys.

"The urine at the time of the increased toxicity of the blood serum, that is, the stage of convulsions, is less poisonous than that of the normal. There is no doubt that this toxicity is due to a retention of some urinary substance."

They furthermore state that this substance has a specific action upon the kidneys, producing hemoglobinuria.

Now, what is the nature of this substance? They say "Pathology has directed our attention to grave lesions in the liver of the eclamptic patients, and hence it is not impossible that a disturbance of its function is connected with it. Experimental pathology furthermore teaches us that the liver plays an important part in the change of the products of an intermediate metabolism."

Now this intermediate substance that they point at is carambic acid—an intermediate state of urea. This substance has been found in the urine of animals whose livers were extirpated. They exhibited toxic symptoms and soon epileptic convulsions supervened.

It was done in this way. An Eck's fistula was established in a dog. This consisted in establishing a permanent communication between the portal vein and the inferior vena cava. Thus the liver was shut out of the circulation by tying the hepatic artery and portal vein.

When the dog was fed on simple diet and kept up a fair appetite his body weight was maintained, but when he was fed on an excess of proteid food he very soon fell into convulsions. Under these conditions, when the liver was removed the urea was found to be very much reduced in quantity in the urine, and the ammonia salts correspondingly increased.

It is, moreover, proved by some St. Petersburg investigators that if the blood in dogs pass from the gastro-intestinal tract directly into the venous circulation without first passing through the liver, meat in any form eaten as a diet will cause disturbance of the nervous system which frequently leads to death. These results have been found the same if ammonium carbamate be introduced into the circulation.