

toxicity, 19 were obtained from cases of uræmia characterized by the occurrence of well marked and repeated convulsive seizures,¹ six of these being instances of puerperal eclampsia. In the nine remaining cases the serum was obtained from patients with chronic nephritis, characterized by dyspnœa and high tension pulse—none of these patients having had convulsive seizures. The inferences which we may make from the study of these serums are as follows: The cases of nephritis characterized by dyspnœa and high tension pulse without convulsions, taken as a class, do not yield positive indications that the toxicity of the serum was greater than normal, although in at least two of the nine cases the toxicity was considerably greater than any I have observed in health. On the other hand the least toxic of these serums possess toxic values that come so near the highest toxic values observed in normal serums that we cannot be certain that they are quite normal. More observations are required, before a final judgment can be formed regarding these cases. Taken as a class, the serums from the convulsive group of uræmias show a degree of toxicity distinctly greater than any which I have observed for normal serums, and although there are a few of the 19 cases in which the results are difficult to interpret, there seems to be no doubt that an increase in the toxic properties of the blood is a characteristic of cases of convulsive uræmia. This latter statement apparently holds good also of certain serums from patients with puerperal eclampsia, but here again more observations are required. Volhard^t has quite recently denied that there is any increase in the toxic properties of the blood of eclamptic patients, but his results cannot be regarded as final.

Admitting that the serum in convulsive uræmia is more toxic than normal serum, the question at once arises, what is the cause of this pathological increase?

It is not possible at present to give a satisfactory answer to this question, but the following facts bear upon it. In the first place the toxicity of uræmic serum for animals is greatly reduced by exposure to moderate heat, say 60°C. for a few minutes. This is also true of the toxic properties of normal human serum. These facts suggest that the increased toxicity of uræmic blood is dependent on the presence of an increased amount of a toxic proteid substance which is normally present in the blood.² We cannot, however, feel certain that the increased toxicity of the serum does not depend on some

¹ In one of these cases there were merely coarse twitchings never amounting to typical convulsions.

² The toxic properties of urea, extractives, salts, etc., are of course not influenced by so moderate an elevation of temperature.