Ablation of the cerebellum in the turtle does not give rise to the same train of symptoms that is observed after labyrinthine extirpation. We find, in agreement with Fano,[1] that the righting reaction is not abolished by ablation of the cerebellum. There was a small, scarcely noticeable, disturbance of coördination in swimming, manifested most clearly in a slight awkardness in approaching the side of the tank. Occasionally, lack of precision of limb movements on the injured side was observed after unilateral operations. One other symptom was that the animal was rarely or never seen to swim deep in the water after cerebellar removal. Our observations substantiate those of Fano, Bickel[2] and Sergi,[3] whose experiments were done on different genera of turtles.

The results on turtles are in substantial agreement also with those of Steiner,[4] Loeb,[5] Bethe[6] and Corso,[7] who report no noticeable motor disturbances in sharks (*Scyllium*) after cerebellar ablation.

It is clear that, in certain of the lower vertebrates, there is a constant and striking difference between the effects of labyrinthine and of cerebellar lesions, and it is equally clear that in these forms the cerebellar connections of the labyrinth are not the important connections.[8]

80 (897)

The involvement of the blood and blood vessels in infantile scurvy.

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Infantile scurvy is a disease characterized by malnutrition, and a tendency to bleeding, especially in the gums, and under the

[1] Fano, *Archives italiennes de Biologie*, 1883, III, pp. 365–368.

[2] Bickel, *Archiv für [Anatomie und] Physiologie*, 1901, pp. 52–80; pp. 495–498.

[3] Sergi, *Arch. di Farmac. sper. e Sc. affin.*, 1905, IV, pp. 474–515.

[4] Steiner, Die Funktionen des Zentralnervensystems und ihre Phylogenese. II. Die Fische; Braunschweig, 1888.

[5] Loeb, *Archiv für die gesammte Physiologie*, 1891, L, pp. 68–85.

[6] Bethe, ibid., 1899, LXXVI, pp. 470–493.

[7] Corso, *Archives italiennes de Biologie*, 1895, XXII, p. xciv.

[8] Luciani, "Physiologie des Menschen," 1907, Bd. III, pp. 482–489.

periosteum of the long bones. It is very often classed under the hemorrhagic diatheses. There has been no comprehensive study of the blood made in this condition. I have had an opportunity to examine the blood in eight cases, more specially from the point of view of coagulation. As is well known there is more or less secondary anemia, a deficiency of hemoglobin and of red blood cells. In addition to this there has been in all the cases examined an increase of leucocytes. The platelets which have been examined several times in each case have been found to be normal in number.

Special attention was paid to the coagulability of the blood. For this purpose the blood was removed directly from the veins into sodium oxalate, was centrifuged, and the plasma was titrated with varying amounts of ½ per cent. calcium chloride solution. At least two tests of this nature were made in each case. The prothrombin was found to be about normal. In a few cases it was somewhat less than that of the normal control, which was always tested at the same time and in the same way as the case of scurvy. The antithrombin was not found to be in excess. The calcium, which by some has been blamed for the bleedings, was found to be quite sufficient for coagulation. That is to say, in the prothrombin test no more calcium had to be added to produce a clot in the cases of scurvy than in the normal cases.

Having found that the blood was normal in these respects, a test of the blood vessels was carried out. For this purpose a method was used which may be termed the *capillary resistance test*—the large vein was constricted in the upper arm by a blood pressure apparatus, using a pressure of about 80 mm. of mercury, and this pressure was continued for exactly three minutes. The bandage was then removed and petechial spots were looked for upon the forearm. Normally this degree of pressure is insufficient to bring about petechiæ. In the case of scurvy, however, numerous little hemorrhages were found to follow this compression of the veins. This result is met with regularly. It may be argued from this result that the blood vessels in this disease suffer with the tissues in general, and that as a result they become more permeable. This is probably not distinctive of scurvy, but occurs in other diseases where the capillaries are involved. It may be

added, however, that tests on several cases of hemophilia have shown that the blood vessels are not affected in this disease, and that the blood does not permeate the vessel wall when subjected to this amount of increased pressure.

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A note on the retention in the blood of uric acid and creatinine in the uremic type of nephritis.[1]

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In two cases of nephritis of the uremic type with high non-protein nitrogen and urea, very high figures for both uric acid and creatinine have been observed. The increase in the concentration of these substances is best shown in tabular form. The figures are in mgm. per 100 c.c. of blood.

Case.	Date.	Non-protein N.	Urea N.	Uric Acid.	Creatinine.	Creatine and Creatinine.
1	Mar. 7	292	200	10.5	....	....
				11.0	9.0	15.0
	Mar. 9	207	182	11.4	16.6	....
2	May 4	...	...	6.1	....	....
	May 7	155	120	8.0	10.0	16.0
	May 13 a.m.	184	140	13.7	13.9	17.2
	May 13 p.m.	226	170	14.0	14.7	27.8

The progressive increase in the various constituents as the condition approaches a fatal termination is well shown in Case 2. Attention is called to the possible etiological importance of the retention of creatinine on account of its containing the toxic guanidine group, also to the probable diagnostic and prognostic value of the determinations for uric acid and creatinine in this con-

[1] After the title of our communication was submitted, papers appeared by O. Neubauer, *Münch. med. Wochenschr.*, (Apr. 21) 1914; LXI, p. 857, and by Folin and Denis, *Journ. Biol. Chem.*, (May) 1914, XVII, p. 487, reporting somewhat similar observations. Neubauer records one case of uremia with marked retention of creatinine in the blood, while Folin and Denis present ten cases of uremia with analyses of uric acid, creatinine together with the other nitrogenous constituents.