PATHOLOGY.

33. ÜBER DEGENERATIONSSHERDE IN DER WEISSEN SUBSTANZ DES RÜCKENMARKS BY LEUKÄMIE (The Spinal Cord in Leukemia). M. Nonne (Deutsche Zeitschr. für Nervenheilk., 10, 1897, p. 167).

To Nonne we are already indebted for much valuable information regarding the changes in the spinal cord induced by pernicious anemia and the symptoms resulting therefrom. He now contributes two cases of cord disease caused by leukemia, a knowledge of which seems heretofore to have been confined to a single case reported by W. Müller (Inaugural Thesis, Berlin, 1895).

The first case was a man aged 59, whose symptoms began six months before death with general debility, dizziness and anorexia. On examination two months after the inception of the disease, the liver and spleen were found to be greatly enlarged, the red blood corpuscles numbered 1,896,000, the white 630,000 to the cubic millimeter, and the percentage in hemoglobin was only 40. The bones were nowhere tender to pressure, and glandular enlargement was limited to a few glands in the groin and axillæ, some of which were as large as a filbert. Sensation, motion and the reflexes were normal. While under observation the number of red blood corpuscles increased slightly, and the spleen diminished in size, but the patient suffered from large intermuscular hemorrhages and died of marasmus and catarrhal pneumonia. Microscopic examination of the cord revealed small myelitic foci or, more strictly speaking, foci of acute or subacute nerve degeneration, scattered through the white substance from the upper lumbar region to the medulla oblongata. Some of these degenerated points were large enough to be seen by the naked eye, and all the stages of degeneration were to be observed from a simple puffed-up appearance of the myeline sheath and swelling of the axis cylinder, to segmentation, breaking up and disappearance of the nerve fibres with compensatory hypertrophy of the neuroglia. Changes in the vessels, hemorrhages, cellular infiltration and extravasation of leucocytes were entirely wanting, and the gray matter throughout with the nerve roots was absolutely normal.

The second patient, a man aged 31, noticed first some enlargement of the abdomen, and during the next two months marked general weakness developed. Irregular febrile movement then appeared, and the patient was admitted to the hospital where he was found to have an enormous spleen, reaching to the right inguinal region. The lymphatic glands were not enlarged, and the bones were not noticeably tender, but examination of the blood showed a great increase of white corpuscles, viz., 1,940,000 red, and 910,000 white, to the cubic millimeter. Objective symptoms of involvement of the nervous system were wanting. The patient died eight days after admission to the hospital and four after the appearance of the first symptoms noticed. A careful microscopic examination of the spinal cord revealed lesions identical in character, size and distribution with those of the first case, the gray matter, nerve roots and vessels being intact. It should be added, however, that the Nissl method was not employed as the material was hardened in Müller's fluid, and hence minute changes in the nerve cells, were not to be positively excluded. PATRICK.

34. EIN BEITRAG ZUR KENNTNISS DER IM VERLAUFE DER PERNICIÖSEN ANÄMIE BEOBSACHTETEN SPINALERKRANKUNGEN (Changes in the Gray Matter of the Spinal Cord in Pernicious Anemia). Teichmüller (Deutsche Zeitschr. für Nervenheilk., 8, 1896 p. 385). The author reports a case of pernicious anemia with arterio-