A 63-year-old man presented with horizontal diplopia. Two years earlier he had a hemiparesis and sensory changes of the right side of the body which regressed in a few days. Examination did not reveal abnormalities other than oculomotor disturbances. With any type and any direction of lateral eye movements, the left eye remained fixed on the midline, while the right eye could only abduct from and return to the midline. In the vertical upward gaze, the right eye showed skew deviation with vertical divergence. Convergence was preserved. The pupillary reflexes were full. Laboratory studies showed: white-cell count was 11-840/mm³, red-cell count was 6.240-000/mm³. Hb 19.8 mg/dL, HCT 58.9%, MCV 89%. The "cr method, the circulating blood volume was found to be increased. A computed tomography scan showed an area of low density in the left parietal region with normal ventricular size; with contrast there were no changes. The gross radiographs were normal. Both carotid and basilar angiograms and ECG were normal. The EEG showed slight slowing in the left temporal area. Intravenous pyelograms revealed two left renal cysts. Two phlebotomies of 400 ml were made. One week later there was complete recovery of the ocular disorder. Two weeks after admission the patient was discharged from hospital with diprydimole treatment.

The "one-and-a-half" syndrome usually results from a single, unilateral and relatively small lesion of the dorsal tegmentum in the lower pons. At first the abducens nucleus (VI) and/or the pontine reticular formation are damaged by this lesion and an ipsilateral conjugate gaze palsy is produced. Next damage by the same lesion to the ipsilateral medial longitudinal fasciculus, which lies at the same level or just above the abducens nucleus, accounts for unilateral internuclear ophthalmoplegia. The causes of the syndrome are varied. In our patient, the "one-and-a-half" syndrome resulted from a probable cerebral thrombosis in the vertebral-basilar system secondary to polycythaemia, a condition in which the liability to cerebral thrombosis is increased. As far as we know, the present case is the first description of a "one-and-a-half" syndrome secondary to polycythaemia, a potentially reversible cause.

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References