model for the study of neurotransmitter metabolism.\(^3\)\(^4\) Therefore, we attempted to measure the concentration of glutamate and aspartate in platelets. We studied 12 healthy subjects ranging in age from 20 to 47 years (six men, six women). All were free of drugs known to affect platelet function for at least 2 weeks before the study. Blood (8 ml) drawn from an antecubital vein from subjects resting in the supine position, was placed into plastic tubes containing citrate. Platelet-rich plasma (PRP) was obtained after centrifugation at 165\(\times\)g for 15 minutes. Platelets were counted using a Baker-810 platelet analyzer. Thereafter, 1 ml PRP was centrifuged at 2500\(\times\)g for 15 minutes to obtain a platelet pellet, which was resuspended in 1 ml saline and sonicated for 5 minutes; 30 mg/ml sulfosalicylic acid was added to deproteinize the platelet preparation. This preparation was then centrifuged at 1200\(\times\)g for 5 minutes, and an aliquot of the supernatant was injected into a Millipore/Waters high-performance liquid chromatography column (Milford, Massachusetts) connected with a Perkin-Elmer fluorescence spectrometer (Norwalk, Connecticut). Glutamate and aspartate were measured using norvaline as an internal standard.

The mean±SD platelet glutamate and aspartate levels were readily detectable at 0.30±0.15 and 0.47±0.14 \(\mu\)mol/10\(^{10}\) platelets, respectively. Accordingly, we suggest that platelets can be used as a more available substrate to study the function of these excitatory amino acids in neurologic disease including stroke.\(^5\)\(^6\)

Furthermore, since glutamate and aspartate have toxic properties and have been implicated in the pathogenesis of ischemic cell damage, we should perhaps consider platelets as an alternate source of these amino acids in ischemic stroke.

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Clinical Disagreement on the Diagnosis of Transient Ischemic Attack: Is the Patient or the Doctor to Blame?

To the Editor:

Like many other clinical diagnoses, that of transient ischemic attack (TIA) is subject to considerable interobserver disagreement.\(^1\)\(^-\)\(^3\) One reason for these variations may be that different clinicians obtain different information from the patient; another is that the observers may interpret the same history differently. Physicians participating in interobserver studies tend to stress the former and overlook the latter. In a previous study, 72 patients with possible TIAs were separately interviewed by two neurologists, randomly paired from a group of 18. We found that of the eight cases in which the observers disagreed on the diagnosis, six disagreements could be attributed to differences in interpretations, whereas only two resulted from a difference in acquired information.\(^5\)

To further elucidate whether the doctor or the patient is the major source of clinical disagreement, we performed the following experiment. Two simulated patients were added to the study population of 72 patients, without the participating neurologists’ knowledge. These two simulated patients were actresses who were thoroughly trained in giving consistent information under all circumstances. One of them, aged 53 years, was taught a history of a single attack of clumsiness of one arm and disturbed articulation, which had come on suddenly and had lasted 10 minutes. The other, 58 years old, was supposed to have experienced two kinds of attacks. First, she had noticed a rather vague visual disturbance of her left eye, “like looking through a steamy pane,” and lasting for 1 minute. Some weeks later she had experienced a tingling sensation in her right arm, spreading in a few minutes to her face and leg; this attack had lasted 30 minutes. Neither attack was followed by headache, but the second simulated patient had had migraine as a young adult.

Each simulated patient was interviewed by four pairs of neurologists. One of the 16 observers appeared slightly suspicious after having interviewed a simulated patient, but the other neurologists noticed nothing unusual. The observers were asked to adhere to recommended rules for the diagnosis of TIA, which are based on internationally accepted criteria\(^6\) and have been used for many years in our department. These criteria were included as a supplement to a checklist on which the symptoms were to be recorded in detail.\(^3\) According to the recommended criteria, the attack of the first simulated patient qualified as a TIA, whereas the two attacks of the second simulated patient did not.

All eight pairs of neurologists showed complete uniformity in the description of the nature and time course of the individual symptoms. Yet in the first simulated patient, seven observers concluded “TIA,” while one concluded “no TIA.” In the second simulated patient, six observers concluded “no TIA,” whereas two observers from different pairs concluded “TIA.” Altogether, only five of the eight pairs agreed on the diagnosis (agreement corrected for chance: \(k=0.25\) compared with \(k=0.77\) for the real patients). The results from our small experiment confirm that differences in the interpretation of symptoms are probably more important as a source of disagreement than differences in the content of the history. This implies that the consistency of the diagnosis of TIA could be improved if the diagnostic guidelines are thoroughly discussed and consistently followed. The patient is not always to blame.

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