

Ocular microangiopathic syndrome in patients with acquired immunodeficiency syndrome and its relationship to alterations in cell adhesion and in blood flow

Abstract:

Ocular microangiopathic syndrome is the most frequent ophthalmic finding in patients with acquired immunodeficiency syndrome (AIDS). Ocular microvascular changes, including cotton-wool spots, are closely associated with neuroretinal and cognitive deficits in patients infected with the human immunodeficiency virus type 1 (HIV-1). Cell adhesion has become an important pathogenetic concept in infectious diseases. We studied 39 patients with AIDS by indirect ophthalmoscopy and by slit-lamp biomicroscopy. Cotton-wool spots were counted as an indicator of retinal microvasculopathy. Conjunctival blood-flow sludging in conjunctival vessels was determined by a standardized rating scale as an indicator of blood-cell adhesion abnormalities. Parameters of immunosystemic damage were determined by fluorescein-activated cell-sorter scan, radioimmunoassay, and enzyme-linked immunosorbent assay. Conjunctival blood-flow sludging was present in 92% of our patients, and cotton-wool spots were observed in 44%. Cotton-wool spots occurred only in patients with significant blood-flow sludging, and the quantity of cotton-wool spots was closely associated with blood-flow sludging ($r = 0.64$, $P < 0.0001$). Lower correlations were found between the numbers of cotton-wool spots and the serum level of neopterin ($r = 0.40$, $P = 0.01$) or the CD4+ count ($r = -0.39$, $P = 0.01$). (ABSTRACT TRUNCATED AT 250 WORDS)