

Treatment Monitoring: Preventing Cognitive Decline

Meridian Valley Lab's Blood Viscosity Test can be used as an advanced diagnostic tool for pre-screening and monitoring patients receiving therapies to prevent cognitive decline.

In a 2010 report of the Edinburgh Artery Study, which is the largest and longest running prospective study of blood viscosity, blood viscosity was shown to predict cognitive decline over a 4 year period in 452 elderly subjects ($p < 0.05$). [1] Blood viscosity was measured in a random population of adults, then cognitive tests were performed at 10 and 14 years to test decline over the 4 year period. Four different tests were used for logical memory, non-verbal reasoning, verbal fluency, and cognitive processing speed. A general cognitive factor was also computed to represent the variance common to all four cognitive tests.

After controlling for age, higher blood viscosity correlated with lower scores on the general cognitive factor ($p < 0.01$) and all of the individual cognitive tests ($p < 0.05$ to $p < 0.01$) with the exception of the verbal fluency test. [1] Blood viscosity is an important determinant of the circulatory flow of blood and was shown to be significantly linked with cognitive function.

Cognitive decline is a known factor of reduced quality of life and survival in elderly populations. In a previous study of 90 apparently healthy males aged 16 to 80, both blood viscosity and hematocrit-corrected blood viscosity were shown to rise with age. [2]

The Blood Viscosity Test is the only available diagnostic measure for the thickness and stickiness of blood and may be employed as a tool for direct monitoring of treatments that improve blood circulation and perfusion. This innovative test enables doctors to pre-screen and monitor patients who may be eligible for treatments to prevent cognitive decline.

Important Information

The Blood Viscosity Test is performed at Meridian Valley Lab using a calibrated glass capillary system that is classified as a Class I device under 21 CFR § 862.2920. The Blood Viscosity Test is not covered by insurance plans. Doctors must bill their patients or their patients' caregivers for this service.

References

1. Rafnsson S, Deary IJ, Whiteman MC, Rumley A, Lowe GD, Fowkes FG. Haemorheological predictors of cognitive decline: the Edinburgh Artery Study. *Age Ageing*. 2010;39:217-22.
2. Lowe GD, Drummond MM, Forbes CD, Barbenel JC. The effects of age and cigarette-smoking on blood and plasma viscosity in men. *Scott Med J*. 1980;25:13-7.