Medical Xpress

Significantly higher serum melatonin in human myopes

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(HealthDay)—Human myopes exhibit significantly higher serum

melatonin (Mel) concentration than non-myopes, according to a study published online July 18 in *Ophthalmic & Physiological Optics*.

Stephanie Kearney, from the University of Ulster in Coleraine, U.K., and colleagues examined the correlation between myopia and serum concentrations of dopamine (DA) and Mel in 54 participants (aged 19.1 ± 0.81 years); nine participants were lost to follow-up. Solid phase extraction-liquid chromatography-tandem mass spectrometry was used to measure morning serum concentrations of DA and Mel in September/October 2014 (phase 1) and March/April 2016 (phase 2). The authors also recorded axial length (AL), corneal radii (CR), and spherical equivalent refraction (SER).

The researchers found that at phases 1 and 2, myopes exhibited significantly higher Mel concentrations than non-myopes (median differences, 10 and 7.3 pg mL^{-1}, respectively; both P^{-1}; P = 0.006). There was a positive association for Mel concentrations with more negative SER (all r ≥ – 0.53; all P

"This study reports for the first time in humans that myopes exhibit higher serum Mel concentrations than non-myopes," the authors write. "This may indicate a role for light exposure and circadian rhythm in the human myopic growth mechanism."

More information: Abstract
Full Text