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## Macular thickness in type 2 diabetics without retinopathy and its correlation with contrast sensitivity at low spatial frequencies

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In diabetes, retinal neurosensory dysfunction occurs earlier before any apparent retinal vascular changes are detected. The reports on macular thickness in type 2 diabetics without retinopathy are inconsistent in terms of reporting thickness changes. Either there was a decrease, an increase, or no change in thickness compared with healthy subjects. From a visual function perspective, diabetics without retinopathy have shown visual dysfunction in some visual function tests, one of which is decreased contrast sensitivity at high spatial frequencies under photopic and mesopic luminance conditions. Little is known, however, about the extent to which contrast sensitivity is affected at low spatial frequencies in type 2 diabetics without retinopathy and its correlation with macular thickness. The purpose of this study therefore was to assess the correlation between contrast sensitivity at low spatial frequencies and macular thickness in type 2 diabetics without retinopathy and compare it with healthy subjects. The results showed a statistically non-significant difference in contrast sensitivity between healthy subjects and type 2 diabetics without retinopathy at low spatial frequencies. The central and the inner 3 mm macular subfield thicknesses were significantly thinner in the diabetics compared with the healthy controls. In type 2 diabetics without retinopathy, the central macular subfield thickness was the only macular subfield independently associated with contrast sensitivity at the spatial frequency of 0.5 cycles per degree. This presentation will further discuss this correlation between macular thickness and contrast sensitivity in type 2 diabetics without retinopathy as an element for future prediction of vision deterioration.

## **Biography**

Shroug M Aldaham is a PhD candidate at the Complutense University of Madrid (UCM), Spain. She has a BSc in Optometry from King Saud University (KSU), Riyadh, Saudi Arabia, and a Master of Science in Vision Science from the University of Waterloo, Canada. She has joined the Optometry department at KSU as a Demonstrator (an academic position that prepares for professorship) before joining the Master program in Canada. After her Masters she returned to Riyadh and later joined the PhD program at UCM. Both of her Master and PhD studies were Saudi government-funded research grants.

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