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Using the Stratus OCT TSNIT Plot to Correlate Structure and Function in a Glaucoma Patient

When evaluating a patient for glaucoma, subtle clues are the key to correlating structure and function.

Unfortunately, however, correlating a functional defect with its anatomic component is not always intuitive. Optic nerve head change may not be evident even in the presence of visual field loss.

So where do we look on the temporal-superior-nasal-inferior-temporal (TSNIT) plot to explain a visual field defect? The following case report illustrates how we can use this tool.

The patient

A 48-year-old Hispanic man presented with an IOP of 26 OU and cup-to-disc ratios of 0.8 OU. Humphrey visual fields (HVF) and a subsequent frequency doubling technology (FDT) field in his right eye were normal. His left eye showed a superior nasal step with HVF and FDT. Even though the nerves looked symmetric, there was a field defect.

The Stratus OCT diagnosis

Since the optic cups looked symmetric, was the visual field defect real? This is where the Stratus OCT helps to correlate the retinal nerve fiber layer (RNFL) and the VF. By using the Stratus OCT to correlate the RNFL distribution with where the visual field shows defects, we can correlate the structure and function. As seen in the chart on the left, the supero-nasal step comes from a loss of the infero-temporal RNFL as seen in the TSNIT plot.

The outcome

Because we see structural and functional correlation with the Stratus OCT, we would institute treatment for this patient on the basis of existing open-angle glaucoma and strive for pressure reduction into the lower teen range.

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Stratus OCT showed a loss of the infero-temporal RNFL in the left eye.