Case Report: Lateral Rectus Palsy – microvascular sixth nerve palsy related to diabetes

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Background

In the United States, the prevalence of diabetes is estimated to be as high as 15% of the population. The complications of diabetes are many which are often the results of macro and microvascular damage. These symptoms are often insidious in onset and can present itself in very drastic of ways.

Case Report

A 58 year old male with a significant past medical history of type 2 diabetes mellitus, hypertension, hyperlipidemia and chronic kidney disease stage 4 initially presented to the emergency department for blurry and double vision for two days with no visual loss. Horizontal diplopia was present each time he looked to the right. Patient was noted to have right eye abduction deficit on right lateral gaze. Stroke was suspected and CT head was obtained which was negative. MRI was then obtained which showed no abnormality. RPR was negative. TSH was within normal limits. Neurology was consulted and symptoms were diagnosed as microvascular 6th lateral nerve palsy related to diabetes.

Contact with patient's primary care physician revealed that he has been non-compliant with his diabetes medications for many years and was noted to have a hemoglobin A1c as high as 16.1 in the past. Follow up with PCP 4 months later revealed resolution of the 6th nerve palsy

Labs/Imaging

CT head w/o contrast - "normal non enhanced CT scan of the head"

MRI Brain w/o contrast – "no acute infarct, mass effect or other acute intracranial abnormality"

TSH	2.990
RPR Titer	Non Reactive *
Hemoglobin A1C	7.1 *

References

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Discussion

In the case of lateral rectus palsy in the setting of diabetes and equivocal testing, lateral rectus palsy is most commonly secondary to microvascular sixth nerve palsy related to diabetes. VI nerve palsy can also be secondary to increased intracranial pressure as well and should be on the differential. The usual clinical course is resolution of diplopia over 4-8 weeks without specific treatment. If the eye movement has not returned to normal by then, additional investigation including CSF exam to look for evidence of other infiltrative or inflammatory disorders should be considered.

Conclusion

Cranial neuropathy is a rare complication of diabetes. 6th nerve palsy is a result of the ischemia from microvascular damage. When other causes of 6th nerve palsy are ruled out (such as trauma, high blood pressure, smoking, stroke), we must consider diabetes as a transient cause.