



Can vitamin D deficiency cause prolongation in visual evoked potentials?

Murat DOĞAN¹, İlyas AYDIN¹, Sultan KABA¹, Keziban BULAN¹, Özlem GÜLPINAR²
Yuzuncu Yil University, School of Medicine, Pediatrics, Pediatric Endocrinology Department¹
Van Regional Training and Research Hospital, Department of Pediatrics²

Objective

It is known that vitamin D has differential roles in cell proliferation, differentiation, neurotransmission and neuroplasticity in nervous system and exerts neurotrophic and neuroprotective effects [1]. In recent studies, it was shown that vitamin D could be protective against in age-related macular degeneration and optic neuritis related to demyelinating disorders [2, 3]. Here, we aimed to perform visual evoked potential (VEP) studies before treatment in patients with rickets

Material and methods and Results

Material-methods

This study included pretreatment visual evoked potential (VEP) evaluations of 30 patients (aged 0-15 years) who were diagnosed as rickets in Child Endocrinology department of Yüzüncü Yıl University, Prof.Dr.Dursun Odabaş Medical Center between January, 2014 and July, 2014.

Results

Mean age was 2.15 ± 4.12 years (min-max: 0.07-15.13) in 30 patients with rickets. There were 8 girls (25.8%) and 23 boys (74.2%). When biochemical and hormone values were studied in patients with rickets, the following results were observed: mean calcium value, 8.09 ± 1.52 mg/dL; mean phosphor value, 4.24 ± 1.53 mg/dL; mean magnesium value 1.95 ± 0.23 mg/dl; mean alkaline phosphatase value 838.23 ± 627.86 U/L; mean parathormone value, 314.82 ± 310.76 pg/mL; mean creatinine kinase value, 173.58 ± 239.73 U/L; mean albumin value 4.05 ± 1.41 g/dL; and mean 25 OH vitamin D level 5.52 ± 3.20 ng/mL. When VEP results were assessed, mean P2 latency was 177.39 ± 37.87 (min-max: 115.80-228) in left eye while 177.0 ± 932.30 (min-max: 120-230.4) in right eye in 27 patients. When LP 100 latency was evaluated in 3 patients, it was found that mean P100 latency was 113.50 ± 3.25 (min-max: 109.80-115.80) in left eyes. The prolongation was detected in left eyes of 6 patients (20%) and right eyes of 4 patients (13.3%) in VEP studies.

Table 1 The distribution of cases according to VEP results

	Left		Right		Total
	mean± SDS (Min-Max)	Conclusion (prolonged;n(%)/normal;n(%))	mean± SDS (Min-Max)	Conclusion (prolonged;n(%)/normal;n(%))	Conclusion (prolonged;n(%)/normal;n(%))
LP2	$177,39 \pm 37,87$ (115,80-228)	6 (20)/24 (80)	$177,0 \pm 932,30$ (120-230,4)	4 (13,3)/26 (86,7)	6 (20)/24 (80)
LP100	$113,50 \pm 3,24$ (109,80-115,80)		$115,20 \pm 2,62$ (112,2-117)		

Conclusion

We intended to emphasize that there could be prolongation in VEP studies in patients with rickets and that there should be need for detailed examination to monitor this prolongation in subsequent years.

References

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