Blepharospasm

Blepharospasm is an abnormal contraction of the eyelid muscles. It often refers to benign essential blepharospasm (BEB) which is a bilateral condition and a form of focal dystonia leading to episodic closure of the eyelids.

Many presented with non-specific motor symptoms such as increased blinking (51.9%) or non-motor sensory features such as eye soreness or pain (38.7%), photophobia (35.5%), or dry eyes (10.7%). Non-motor psychiatric features were also common including anxiety disorders (34-40%) and depression (21-24%). Among cases presenting with blepharospasm in the Dystonia Coalition cohort, 61% experienced the spread of dystonia to other regions, most commonly the oromandibular region and neck. Features associated with spread included severity of blepharospasm, family history of dystonia, depression, and anxiety [1].

Hao et al. recruited 30 BSP patients and 20 gender- and age-matched healthy controls (HCs). Weak electrical stimulation was applied to the right index finger at interstimulus intervals (ISIs) of 120, 200, and 300 ms before the supraorbital nerve stimulation to investigate PPI size [PPI size = (1 - R2 area at prepulse trials/R2 area at baseline trials) × 100%].

The prepulse stimulus significantly inhibited the R 2 component at the three ISIs in both groups, but less inhibition was shown in the BSP group ($p < 0.05$). In HCs, the prepulse stimulus induced prolonged R 2 and R 2c latencies at the three ISIs and increased the R 1 amplitude at ISIs of 120 ms; these changes were absent in BSP patients. In the BSP group, patients with sensory tricks showed better PPI than patients without sensory tricks. Disease duration and motor symptom severity showed no significant correlation with PPI size.

In BSP patients, PPI was impaired while R 1 facilitation was absent. PPI size did not correlate with the motor symptom severity and disease duration. Patients with sensory tricks showed better PPI than those without sensory tricks [2]

1)
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2)
Hao X, Huang X, Yin X, Wang HY, Lu R, Liang Z, Song C. Elucidation of the mechanism underlying impaired sensorimotor gating in patients with primary blepharospasm using prepulse inhibition. Front Neurol. 2023 Feb 1;14:1105483. doi: 10.3389/fneur.2023.1105483. Erratum in: Front Neurol. 2023 Mar 16;14:1174368. PMID: 36816573; PMCID: PMC9929365.