

UJIAN VESTIBULAR DENGAN MENGGUNAKAN TEKNIK VIDEONYSTAGMOGRAFI (VNG)

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Ujian vestibular telah dijalankan ke atas 20 orang dewasa normal dari segi otoneurologikal dengan menggunakan 'Videonystagmography' (VNG) (min umur 22.17 tahun). Ujian vestibular yang dijalankan merangkumi nystagmus spontan, nystagmus bangkitan tenungan, sakad, jejak (tracking), optokinetik, Dix-Hallpike dan ujian kalorik. Kajian ini mendapati tiada subjek menunjukkan nystagmus spontan dan nystagmus bangkitan tenungan. Min dan sisihan piawai untuk data norma telah dikira untuk ujian sakad, jejak dan kalorik. Ujian sakad rawak melintang digunakan untuk mengira halaju sakad, tempoh sakad dan ketepatan sakad. Dapatan jejak (pursuit gain) dikira sepanjang frekuensi 0.2-0.7 Hz dalam ujian jejak. Halaju fasa lambat dapat dikira dengan melakukan ujian kalorik dua jenis suhu yang berlainan. Peratusan kelembapan kalorik dan kecenderungan hala untuk semua subjek adalah dalam lingkungan 0-25 %. Analisis ujian-*t* menunjukkan tiada perbezaan signifikan antara jantina, telinga dan suhu yang digunakan dalam ujian kalorik. Ujian optokinetik menunjukkan semua subjek mempunyai respons yang simetri. Ujian Dix-Hallpike pula mendapati bahawa semua subjek adalah normal dengan tidak menunjukkan vertigo kedudukan parosimal. Lapan daripada 20 orang subjek telah diulang ujian dengan menggunakan 'electronystagmography' (ENG). Kaedah VNG adalah lebih senang dilakukan berbanding kaedah ENG dari segi ujian dan pengguna. Tetapi, video *goggle* harus dibaiki agar ia lebih selesa dipakai oleh pesakit.

Kata kunci : Ujian vestibular, videonystagmography, nystagmus

VESTIBULAR TESTING USING VIDEONYSTAGMOGRAPHY (VNG)

Vestibular testing was studied among 20 otoneurological normal young adults using Videonystagmography (mean age 22.17 years old). The vestibular battery were spontaneous nystagmus test, gaze evoked nystagmus test, saccade test, tracking test, optokinetic test, Dix Hallpike Maneuver and caloric test. Study showed none of these subjects had spontaneous nystagmus and gaze-evoked nystagmus. Normative values calculated in mean and standard deviation for saccade, tracking and caloric tests were developed. Horizontal random saccade test was used, saccadic velocity, latency and accuracy was measured and calculated. Pursuit gain was calculated across the frequency of 0.2-0.7 Hz in tracking test. Slow phase velocity of caloric response was measured from running the bithermal air caloric testing. Percentage of caloric weakness and directional preponderance for all subjects are within 0-25 %. *t*-test results showed no significant difference between gender, side of stimulation and temperature used in caloric test. Optokinetic test showed symmetrical response between rightward and leftward field movement. Dix Hallpike maneuver revealed that all subjects were normal without any benign paroxysmal positional vertigo (BPPV). Electronystagmography (ENG) testing was repeated on 8 out of these 20 subjects. It shows that running VNG are more convenient than ENG as it has more functions and user friendly. But, video goggle needs to be improved due to the fact that it was not patient friendly.

Keywords : Vestibular testing, videonystagmography, nystagmus

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