Sensitivity evaluation in air and water caloric stimulation of the vestibular organs using videonystagmography

Ocena czułości powietrznej i wodnej stymulacji kalorycznej na narządy przedsionkowe za pomocą wideonystagmografii

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ABSTRACT

Introduction. The aim of the study was to compare air and water caloric stimulation of the vestibular organs using videonystagmography (VNG).

Material and methods. The study covered 18 women aged 21–63 and 11 men aged 21–74 hospitalized at the ENT, without complaints for vertigo and/ or balance disorders. The alternate binaural bithermal caloric test with cool 30°C and warm 44°C air or water irrigations (after 2 hours interval for the recordings) with the use of VNG.

Results. All parameters of air and water vestibular caloric stimulations, assessed in the VNG, differed significantly but were within the normal range. The research showed a statistically significant difference between canal paresis but only for the left ear at 30°C and 44°C. Absolute directional preponderance, relative directional preponderance, vestibular excitability, slow component velocity, frequency were different statistically for both ears at both temperatures.

Conclusions. Our study showed that both air and water caloric stimulations were able to distinguish physiological and impaired vestibular function. The obtained results showed statistically higher response for water than air stimulation.

Key words: Air and water caloric stimulation, vestibular organs, VNG

Słowa kluczowe: powietrarna i wodna stymulacja kaloryczna, narządy przedsionkowe, VNG