

## Joint Event

Kvasha O et al., Otolaryngology online, Volume 9
7<sup>th</sup> International Conference on ISSN: 2250-0359

## Otolaryngology: ENT Surgery

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2<sup>nd</sup> International Conference on Dental Health and Oral Hygiene

September 05-06, 2019 | London, UK

## Diagnosis of vestibular disorders in blast-related mild traumatic brain injury patients

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The aim is to analyze the vestibular disorders in blast-related mild traumatic brain injury (TBI) patients.

**Materials and methods:** The retrospective analysis included 39 patients, with TBI during war in Dondass and were treated from 2017 to 2018. The average age was  $35.2 \pm 5.7$  years. Group of comparison – 15 healthy persons.

Postural control function was assessed with CS "Stabiloanalyzer 01-03" ("Rhythm"), using open and closed eye Romberg test, dynamic test "Target", specialized questioners FGA, DGI, DHI.

**Results:** Among patients' complaints were dizziness 79.4%, stiffness while walking 38.4%, double vision 15.3%, and otalgia17.9%. During the pure tone audiometry, conductive hearing loss was observed in 7 patients (17.9%), mixed type in 5 (12.8%) patients, sensorineural hearig loss: bilateral - in 9 (23.0%); unilateral - at 8 (20.5%); normal hearing in 10 (25.6%) patients. According to the The Functional Gait Assessment, the average score for vestibular disorders was  $21 \pm 3.2$ , which corresponds to a mild and moderate disorder.

**Dynamic Gait Index:** The average rate was  $17.3\pm0.8$ , indicating good vestibular compensation for young patients.

**Dizziness Handycap Inventory questioner:** 34±0.9 corresponds to a moderate disordes of vestibular function. Analysis of the results obtained during the conduct of CS in TBI patients revealed

a probable trend towards statistically significant differences in the classical baseline indices of statoquinezigrams (length of fluctuations of the total pressure center, statokinezigma area more than  $200\text{cm}^3$ , and average velocity of movement) according to the group of comparison (p≤0,05).

**Conclusion:** Specialized questionnaires and CS method are the methods of evaluation of spontaneous pathological vestibular disorders in patients with TBI and open new opportunities for objective clinical and expert evaluation of vestibular dysfunction during social security medical exams and medical forensic examination of participants of hostilities.

## **Speaker Biography**

Kvasha O has completed her PhD at the age of 25 years from Bogomolets Nayional Medical University, Ukraine. She is the ENT doctor and neuro-otologist of the Institute of neurosurgery, Kyiv, Ukraine. She is a member of La Societe internationale d'otoneurologie (France), International Society of Aestetic Plastic Surgery, Society of Ukrainian ENT doctors. Her current research project focuses on vestibular and otologic disorders in blast-related traumatic brain injury patients. She performs intraoperative neuromonitoring in the Institute of neurosurgery, Kyiv. She was trained in The Portmann Instuitute, Bordeaux, France. She has 28 publications that have been cited over 25 times.

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