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REPORT ON THE 12TH INTERNATIONAL TINNITUS CONFERENCE AND 3RD CROSS-STRAIT TINNITUS SEMINAR IN TAIWAN

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The 12th International Conference organized by the Tinnitus Research Initiative took place on 17–19.05.2019 in Taipei. The conference gathered about 200 participants from around the world and was devoted entirely to the subject of tinnitus. The conference was interdisciplinary, with otolaryngologists, audiologists, scientists, psychologists, and physiotherapists. The program was divided into thematic blocks including epidemiology, animal tinnitus models, diagnostics, electrophysiology, clinical trial methodology, the use of hearing aids and cochlear implants in tinnitus therapy, auditory hypersensitivity, and genetics.

The conference was entitled *A Renaissance: Novel Concepts in Tinnitus*. Despite intensive research in this field, there is still no clear model explaining the mechanism of tinnitus. Professor Ann Belen-Elgoeyn described a project which, from analysing tinnitus as a side-effect of various drugs, tries to create a model explaining the underlying mechanism.

In the thematic block on the topic of animal tinnitus, Prof. Susan Shore, who is considered a leader in the field of testing the mechanisms of animal tinnitus, outlined the possible role of fusiform cells in generating tinnitus. They might generate tinnitus but not cause any change in ABR latencies.

Objective tinnitus is a rare condition in which sound is heard by the patient but can also be heard by other people. Dr Jung Mee Park from Korea presented her experience on treating objective tinnitus caused by myoclonus of the soft palate in a group of 54 patients. A gradual procedure was recommended, starting with consultation to get information and moving to a second stage, cognitive behavioral therapy. The final stage was botulinum toxin injection. In the case of young people under 19, the first and second stages are sufficient. Gradual treatment resulted in complete resolution of symptoms in 92.6% of patients.

Pulsatile tinnitus of venous origin, which may also have an objective character, was the subject of an interesting presentation by Dr Wuqing Wang. The results of surgical treatment of pathology of the sigmoid sinus (cavities or diverticulum in the sinus wall, enlargement of the transverse and sigmoid sinus, and stenosis of the transverse sinus) were presented. The conclusions were that a good candidate for surgery is a patient who suffers reduced tinnitus after compression of the venous vessels. Compression of the leading sigmoid sinus was considered an effective method to eliminate pulsatile tinnitus of venous origin. According to the authors, from observations of recurrence of symptoms observed in a group of patients, the diverticulum and defects of the sigmoid sinuses are not causes of tinnitus. Several months' observation of patients before they qualify for surgery was recommended in order to exclude cases of functional tinnitus. It was emphasised that surgical treatment of pulsatile tinnitus of venous origin treats the symptom but not the disease.

Reduction in the frequency of tinnitus was observed in a group of 41 patients treated surgically by removal of N VIII neuromas via a translabyrinthine approach. Better improvements – in the form of lowering the frequency of tinnitus and reducing its volume – were recorded in those patients with low-tone tinnitus in comparison with those experiencing medium and high-tone tinnitus.

Somatosensory tinnitus is generating increasing interest among clinicians. Its characteristic feature is that it can be modulated through movement of the head, neck, jaw, or eyes. This kind of tinnitus is also modulated by pressure on so-called facial trigger points. This is one type of tinnitus where very beneficial effects can be achieved using physiotherapy – the tinnitus can be quietened or even completely eliminated. Professor Sarah Michiels, a recognised authority in the field, presented criteria to diagnose tinnitus of a somatosensory character and outlined physiotherapeutic methods to treat it. The diagnostic and therapeutic criteria were created through multicenter consultations (Diagnostic criteria for somatosensory tinnitus: a Delphi process and face-to-face meeting to establish consensus, *Trends in Hearing*, 2018).

Reduced tolerance for sounds is another topic that attracting increased interest. Professor R. Tyler presented his perspectives on the problem. He divided auditory hypersensitivity into four subgroups: hypersensitivity associated with loudness, annoyance, pain, or fear. Professor P. Jastreboff, on the other hand, divided the reduced tolerance to external sounds into two categories: auditory hypersensitivity and misophonia. During the conference, it was stressed that there is a need to create a tool in the form of a questionnaire assessing auditory hypersensitivity.

I was the only representative from Poland and the Institute of Physiology and Pathology of Hearing at the conference. I presented the results of research on the audiological and psychological profile of a child with tinnitus (Children with tinnitus: audiological and psychological profiles). The results of our own research suggest that children with tinnitus do not show significant anxiety or depression due to tinnitus. The presented results described an early stage of the project whose aim is to create a questionnaire assessing the degree of tinnitus annoyance in children.

The next conference organized by Tinnitus Research Initiative will take place in 2020 in Vancouver, Canada.