Does manual therapy help patients with cervicogenic somatosensory tinnitus?

Tinnitus is defined as the perception of sound (ringing, clicking, hissing, roaring, buzzing) in one or both ears in the absence of external auditory stimulation. The overall prevalence of tinnitus in adult population ranges from 7% to 19% (i.e. it may affect about 1 in 5 people). In up to 5% of the adult population, tinnitus interferes negatively with the ability to lead a normal daily life (lack of concentration, anxiety, depression), and in 2% it has a severe effect on daily life. In clinical practice, tinnitus is often considered untreatable, and many patients are familiar with the phrase “you have to learn to live with it”. Exact diagnosis and a proper treatment may significantly help patients with tinnitus in normal, everyday functioning. Researchers still look for more effective treatment options.

Prevention of the tinnitus includes avoiding loud noise exposure. Elderly people, men, smokers, and people with cardiovascular problems face the increased risk of tinnitus.

Tinnitus is a symptom of some underlying health conditions, mainly ear problems, auditory nerves or hearing center injuries or diseases, and chronic health conditions. It may result from many causes, but sometimes the reason of tinnitus is unknown. In some patients, tinnitus can be evoked or modulated by input from the somatosensory and somatomotor systems. So-called cervicogenic somatosensory tinnitus is related to changes in anatomical structures and physiological functions of the cervical region. Somatosensory tinnitus is probably underdiagnosed due to a lack of publications of diagnostic tests and therapeutic options on this subject.

Current treatments of the somatosensory tinnitus include transcutaneous electrical stimulation, manual compression of myofascial trigger points, and movement therapies focused on neuromusculoskeletal functions, particularly muscular and joint functions of the upper cervical region and head. Alleviation of tinnitus by cervical manipulation has also been reported.

Thus, important issue from a clinical point of view is the diagnose of cervicogenic somatosensory tinnitus, and whether treatments targeting the somatosensory system can be utilized to treat such patients. To answer this question, researchers investigated 122 patients with cervicogenic somatosensory tinnitus. All subjects received manual therapy according to the method of Manual Therapy Utrecht (MTU).

The current findings contribute to our understanding of the management of tinnitus by manual therapy. Despite its limitations, this study provides valuable information on both the characteristics of patients with cervicogenic somatosensory tinnitus and the potential effectiveness of manual therapy combined with tinnitus explanation.

Of course, this leads to more questions about effectiveness and efficacy of manual therapy. Our

results will be particularly useful in the design of a randomized controlled trial in the next phase of the research on development and evaluation of multimodal manual therapy in patients with cervicogenic somatosensory tinnitus.

Described research make the world more friendly for people suffering from cervicogenic somatosensory tinnitus. Average duration of the tinnitus within the research group was 7.3 years. We intend to help patients with cervicogenic somatosensory tinnitus earlier and more effectively - an average number of treatment sessions was 9.6, the maximal number of treatment sessions was 12.

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Publications

Cervicogenic somatosensory tinnitus: An indication for manual therapy? Part 1: Theoretical concept.
Oostendorp RA, Bakker I, Elvers H, Mikolajewska E, Michiels S, De Hertogh W, Samwel H
Man Ther. 2015 Dec 18

Cervicogenic somatosensory tinnitus: An indication for manual therapy plus education? Part 2: A pilot study.
Oostendorp RA, Bakker I, Elvers H, Mikolajewska E, Michiels S, De Hertogh W, Samwel H
Man Ther. 2016 Feb 21