

The Influence of Atlas Therapy on Tinnitus

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Abstract: We present questions and thoughts of an outsider on the proprioceptive input of the posterior small cervical muscles to the brainstem as a source of tinnitus. After treatment of whiplash injuries and other muscular conditions with Arlen's atlas therapy, some patients reported that their tinnitus had abated with the muscular tensions. Atlas therapy has been proven to slacken the muscles and seems to quiet to normal levels afferent impulses to the brainstem. This has been proven to apply to nystagmus. We sought to determine whether it has the same effect on some forms of tinnitus.

PHYSIOLOGY OF ATLAS THERAPY

Dr. Arlen's atlas therapy [1–3] has the clinical effect of slackening to normal in a reflex manner all tense muscles in the neck and back area. This is done by an impulse of high velocity and low amplitude to the wing of the atlas, the first vertebra. No repositioning of the atlas is involved, as is attempted by chiropractors, even though the impulse has to travel in the direction of reposition. The method can be learned and standardized for two parameters by using an impulse simulator that shows the time of the impulse in milliseconds and the force in Newtons.

More than a century ago, Sherrington [4] showed, on his famous decerebrated cats, that touching the dura or stimulating the root of the C2 nerve leads to a slackening of all muscles. Atlas therapy, therefore, seems to work on a similar principle.

In conjunction with Claussen, we organized a study with whiplash-injured patients to prove the effect of Arlen's therapy [5]. This has never been done before, despite many attempts by Arlen himself, who consulted such specialists as neuroanatomists and neurophysiologists.

Through electronystagmography before and after atlas therapy on persons with late whiplash injuries, we discovered that the therapy influences the brainstem

and normalizes a pathological electronystagmogram.* The pilot study was conducted on 11 patients with whiplash injuries. Seven patients experienced a complete normalization of vestibular disturbances, three reacted better but not to normalcy, and only one patient was unchanged. We concluded that Arlen's atlas therapy has an effect on the muscles of the neck and lowers their afferences to the brainstem.

Neuroanatomists found that the short posterior cervical muscles, the inner layer of cervical muscles, have 10–100 times more neural density than do the normal skeletal muscles [6]. Furthermore, the afferences for proprioception in the neck muscles comprise 90% of the nerve, as compared to 10% of the neural supply in other skeletal muscles, except in the plantar portion of the foot and the palm (where the interdigital muscles have a similar proprioceptive density of afferences). Together with the labyrinth, the posterior cervical muscles regulate our posture in space. While the labyrinth checks motion, the muscles help to define position (e.g., by computing the pictures the eye receives to be perceived upright).

Irritating these posterior cervical muscles and placing them under tension must precipitate a great afferent input to the vestibular nuclei in the brainstem. This response seems to be one of the origins of idiopathic tinnitus. Diminishing the tension via atlas therapy seems to lower the proprioception and nociception output, leading to normalization of the flow of information to

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*In future, a kinesiological electromyogram may help in the diagnosis of cervical muscle tension. This modality currently is being developed by Michael Kramer, University of Ulm.

the brainstem and, as a consequence, the lessening of tinnitus.

THE CLINIC OF ATLAS THERAPY

Once my attention had been drawn to tinnitus, I tried atlas therapy on other patients who had been suffering for years with increased symptom of painful tensions of the neck. I could not heal them, but the treatment did render tinnitus more tolerable. I also paid more attention to patients who suffered from whiplash injury and complained about hissing in the ear. When dealt with early after the whiplash accident, the tinnitus subsided completely, mostly after several sessions of atlas therapy and as soon as the muscles became permanently relaxed.

The literature shows that many other methods are used to relax the neck muscles, with some success in treating tinnitus: Among the most important are acupuncture, the Alexander method, autogenous training, Brügger method craniosacral treatment, and Feldenkrais. All act on the same point—the posterior neck muscles.

Arlen’s atlas therapy is as simple and efficient as it is low in untoward incidents. None have occurred, in comparison to chirotherapeutic manipulations of the neck. No serious complication is known, and certainly the vertebral artery has never been placed at risk.

On the other hand, atlas therapy can be so efficient that it may delay diagnosis and a necessary operation. Therefore, before atlas treatment, because the protecting tension will be removed, fractures of vertebrae of the neck are to be excluded, as are tumors, endolymphatic hydrops, and other space-occupying lesions in the skull.

HYPOTHESIS FOR ONE ORIGIN OF TINNITUS

A constant flow of energy impulses and chemical transmission comes to the brainstem from the six senses (proprioception being number six) and from the cerebral cortex. Seemingly, if an overflow of information to the brainstem comes from one or more of the senses, it can lead to symptoms that mimic disorders of the neural structures, such as dizziness, nausea, vomiting, nystagmus, blurred vision, and tinnitus. All are well-known symptoms of whiplash injury and brain damage after concussion or compression by a tumor.

If proprioceptive afferences are the origin of the pathology, there is a good chance for a therapeutic window for Arlen’s method. Logically, treating these pathological effects as soon as possible is necessary before the process is definitely established through the

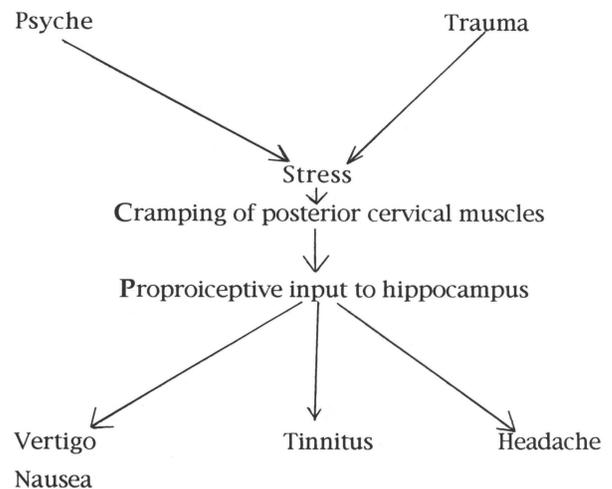


Figure 1. Scheme of pathways for Tinnitus

plasticity of the neural system. In cases of whiplash injury, the distorted or otherwise damaged muscles of the neck should be treated within several days by atlas therapy or (alternatively) by craniosacral osteopathy to achieve full normalization.

The scheme presented here would fit in the Shulman diagram [7] if blended into “environmental input” (Figs. 1, 2): Psychic to traumatic stresses lead to tension of the neck muscles, pathological stimulus of the brainstem and, finally, to such abnormal sensory reactions as tinnitus. Then, if the input to the brainstem is normalized by atlas therapy, the problem can be resolved.

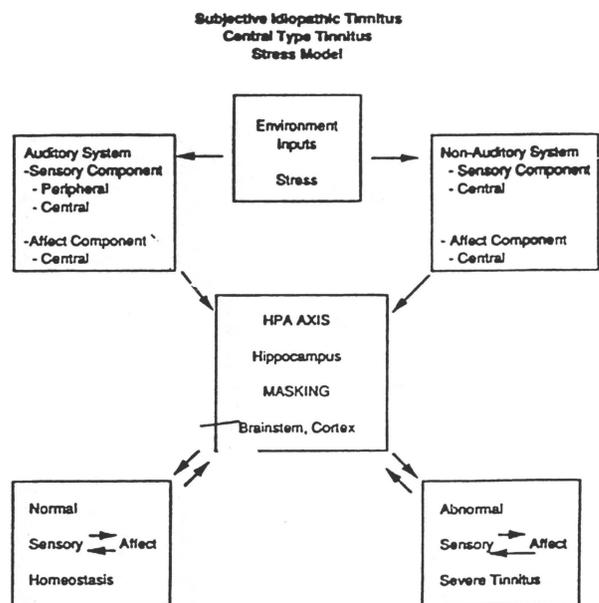


Figure 2. Model of A. Shulman for Central Tinnitus/Stress

CONCLUSION

In conclusion, I certainly do not suggest atlas therapy for all cases of tinnitus but for those wherein tensions of the neck muscles can be the origin of tinnitus. The condition will be better by Arlen's atlas therapy. Whiplash injuries are a common indication after exclusion of a vertebral fracture. This method is quickly applied and is very effective if administered properly.

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