

CASE REPORT

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Acupuncture treatment for Tympanic membrane perforation

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Abstract

Tympanic membrane perforation or a ruptured eardrum, is tear or hole in the thin tissue that split up the ear canal from the middle ear (eardrum). Damage to the eardrum can affect in hearing impairment and a advanced liability of middle ear infections. The middle and inner ear contain fragile structures that can be easily impacted by injury or illness. A perforated (ruptured) eardrum may result from infections, sudden changes in pressure (barotrauma), exposure to loud noises, or significant head injuries and etc. In Traditional Chinese Medicine, ear infections are seen as a result of disruptions in the flow of Qi (vital energy) and Blood. These imbalances can stem from external pathogenic influences such as Wind or Heat, or from internal issues like Qi Deficiency. Acupuncture works by stimulating specific acupoints on the body, and is believed to awaken the body's self-healing abilities. Acupuncture in this setting is believed to stimulate blood flow in the periauricular area, promoting the repair of tissues and alleviating inflammation. In this research paper is about 16 years old boy who suffer from tympanic membrane perforation on right ear, he has had this problem long period. The patient had frequent ear infections and also had bacteria pseudomonas aeruginosa. The boy has a feeling of stuffiness and discomfort in both ears without pain. He has also performed several examinations such as rhinoscopy, oropharyngoscopy, and tympanometry after ear irrigation. As therapy, doctors have given him various nasal sprays and eardrops. He started acupuncture treatments on January 30 and had 14 treatments by April 28. After the tenth treatment, he had a follow-up examination with an otolaryngologist and the membrane had already closed. Acupuncture treatment successfully treats chronic ear problems in a natural way.

Key Words: ears, infection, rupture, TCM, acupuncture, treatment

Introduction

A tympanic membrane perforation, commonly known as a ruptured eardrum, refers to a tear or hole in the thin tissue separating the ear canal from the middle ear. This condition can lead to hearing loss and increase the likelihood of infections in the middle ear. The structures within the middle and inner ear are delicate and can be harmed easily by injury or disease. Identifying what's causing ear-related symptoms and assessing whether the eardrum is damaged is a crucial step in diagnosis.

Signs and symptoms of an eardrum rupture may include: ringing in the ear (tinnitus), hearing loss, ear pain that may subside quickly, spinning sensation – vertigo, mucus like pus-filled or bloody drainage from the ear and other. [1]

Infections affecting the middle ear are the primary reason eardrums may become perforated. Additional causes can include inserting foreign objects—such as cotton swabs or pointed items—into the ear, which may result in tearing. Trauma- a ruptured

eardrum can occur if your ear is struck with an open-handed slap or if you are hit forcefully on the ear or the side of your head. Barotrauma- Ear barotrauma can occur if your Eustachian tube becomes blocked or inflamed. Sudden explosive sounds-being near an explosion or gunfire can cause your eardrums to rupture.[2]

A rupture of the tympanic membrane is typically identified through a physical exam and a review of the patient's medical history. However, it's important to consider other potential conditions during evaluation. The differential diagnosis may include acute otitis media (AOM), otitis externa, traumatic otorrhea (including cerebrospinal fluid leakage), neoplasms of the brain or inner ear, posterior circulation stroke, among others. Treatment for tympanic membrane (TM) perforation is generally supportive, since the majority of cases heal without intervention. Keeping the ear dry is crucial, as moisture may elevate the risk of infection. Routine use of antibiotics is typically not required. Surgical intervention may be necessary for perforations located in the posterosuperior quadrant, those caused by penetrating trauma, or if the perforation has persisted for less than two months—these scenarios are often linked to poor spontaneous healing. In such cases, referral to an otolaryngologist is recommended. Additionally, if hearing loss is present, early referral to both otolaryngology and audiology is advised. [3]

Case report

In this research paper is about 16 years old boy who suffer from tympanic membrane perforation on right ear, he has had this problem long period. The patient had frequent ear infections and also had bacteria pseudomonas aeruginosa. The boy has a feeling of stuffiness and discomfort in both ears without pain. He has also performed several examinations such as rhinoscopy, oropharyngoscopy, and tympanometry after ear irrigation. As therapy, doctors have given him various nasal sprays and ear drops. Some doctors even suggested surgery. He started acupuncture treatments on January 30 and had 14 treatments by April 28. After the tenth treatment, he had a follow-up examination with an otolaryngologist and the membrane had already closed.

The acupuncture treatments were made in an acupuncture clinic for acupuncture and TCM in Skopje, North Macedonia by a doctor specialist in acupuncture. Acupuncture treatments were with a duration of 30 to 45 minutes. Treatments were done indoors, on a room temperature, with normal (dry) acupuncture with fine sterile disposable needles sized 0.25x25mm. Meridians used in the treatments are: DU, ST, LI, GB.

Traditional Chinese Medicine (TCM) is a comprehensive healthcare system rooted in centuries of clinical practice. It follows a scientific model focused on regulation and balance within the body. TCM employs a variety of therapeutic approaches, including Chinese herbal remedies, dietary therapy, acupuncture, moxibustion, and manual techniques such as Chinese bodywork, to treat illness and promote overall well-being. While the exact origins of Traditional Chinese Medicine are unclear, historical evidence suggests it has been practiced for over 5,000 years. Acupuncture stimulates the body's innate healing processes. By inserting fine needles into specific acupuncture points, it helps activate and regulate the flow of Qi—the body's vital energy—enhancing overall circulation and balance. For children with chronic ear conditions, acupuncture aims to rebalance the immune system and support healthy ear function. By correcting internal imbalances, it can help decrease inflammation, encourage fluid drainage from the ears, and strengthen the body's natural defenses against infections. Acupuncture can be effective in easing pain linked to persistent ear issues. The needle insertion triggers the release of endorphins—natural chemicals in the body that help relieve pain—offering quick relief and increasing the child's comfort. Additionally, acupuncture may benefit hearing by boosting blood flow and energy circulation to the ears, thereby supporting better function of the auditory system. [4,5]

Conclusion

Acupuncture has a safe and beneficial approach in managing chronic ear conditions especially in young patients. By promoting the self-healing processes of the body and

restoring internal balance, acupuncture can reduce symptoms, support better ear health, and contribute to the overall well-being of patients.

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Conflict of interest

The author have declared that no competing interests exist.

Acknowledgement

None.

Statement of Informed Consent

Written informed consent was obtained from the patient for his anonymized Information to be published in this article