Liua, Epidemiol Sci 2021,11:8

Epidemiology: Open Access

Commentary Open Access

A Brief Note on Acoustic Neuroma of Brain Tumor

Bin Liua*

Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA

***Corresponding author:** Dr Bin Liua, Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA, E-mail: liuabin25@dfci.harvard.edu

Received date: December 09, 2021; **Accepted date:** December 23, 2021; **Published date:** December 30, 2021

Citation: Liua B (2021) A Brief Note on Acoustic Neuroma of Brain Tumor. Epidemiol Sci 11: 420.

About the Study

Acoustic neuroma, also known as vestibular schwannoma, is a noncancerous tumour that grows on the major (vestibular) nerve that connects the inner ear to the brain. Hearing loss, ringing in the ears, and unsteadiness can all be caused by pressure from an acoustic neuroma.

Acoustic neuroma is a benign tumour that develops in the Schwann cells that surround the nerve and grows slowly or not at all. It is possible that it will develop fast and push on the brain, interfering with important activities.

Regular monitoring, radiotherapy, and surgical excision are all options for acoustic neuroma treatment.

Symptoms

Acoustic neuroma symptoms and signs are commonly overlooked, and they might take years to manifest. They generally occur as a result of the tumor's impact on the auditory and vestibular nerves. The tumor's pressure on neighbouring nerves regulating face muscles and feeling (facial and trigeminal nerves), surrounding blood vessels, or brain structures may create issues.

As the tumour develops, the signs and symptoms may become more obvious or severe.

Hearing loss that occurs on just one side or is more severe on one side, generally gradually increasing over months to years but in rare cases, suddenly that occurs on only one side or is more severe on one side.

- Tinnitus (ringing in the ear) in the afflicted ear
- Unstability or a lack of equilibrium
- Feeling dizzy (vertigo)
- Numbness and weakness in the face, as well as a lack of muscular mobility.

An auditory neuroma can develop large enough to squeeze the brainstem and be life-threatening in rare situations.

Causes

Auditory neuromas may be caused by a problem with a gene on chromosome 22. This gene normally generates a tumour suppressor protein that aids in the regulation of the proliferation of Schwann cells that coat the nerves.

There is no known aetiology for acoustic neuroma in the majority of cases. This defective gene is also inherited in neurofibromatosis type 2, an uncommon illness characterised by the formation of tumours on both sides of the hearing and balance nerves (bilateral vestibular schwannomas).

Neurofibromatosis type 2

Having a parent with the uncommon genetic illness neurofibromatosis type 2 is the only known risk factor for auditory neuroma. Type 2 neurofibromatosis, on the other hand, accounts for only around 5% of all auditory neuroma cases. The growth of noncancerous tumours on the hearing and balance nerves on both sides of the head, as well as other nerves, is a distinguishing feature of neurofibromatosis type 2.

Neurofibromatosis type 2 (NF2) is an autosomal dominant disease, which implies that the mutation may only be passed down from one parent (dominant gene). Each kid of a parent who is afflicted has a 50-50 chance of acquiring the condition.

Complications

An acoustic neuroma can lead to a number of long-term consequences, including hearing loss.

- Hearing loss is a common problem
- Numbness and weakness in the face
- Problems with balancing

Large tumours may obstruct the regular flow of fluid between your brain and spinal cord by pressing on your brainstem (cerebrospinal fluid). Fluid can build up in your head (hydrocephalus) in this situation, causing increased pressure inside your skull.