

Understanding Acoustic Neuroma



What is an Acoustic Neuroma?

An acoustic neuroma is a specific type of brain tumour sometimes referred to as vestibular schwannoma or acoustic neurinoma.

They are benign tumours that develop from the lining of the auditory nerve, which is also known as the Vestibular Nerve or the Acoustic Nerve. The vestibular nerve is responsible for balance and the auditory nerve is responsible for hearing. The acoustic neuroma arises from Schwann cells which cover the nerve and is sometimes therefore called a Schwannoma.

An acoustic Neuroma is a slow growing benign tumour and it does not spread from its original site within the brain.

Causes of Acoustic Neuromas

Acoustic neuromas are rare, they account for about 8 in each 100 primary brain tumours. Acoustic neuromas are most likely to be found in middle aged adults. Early detection is crucial but sometimes difficult because symptoms may be subtle or not present, and are shared in common with many middle and inner ear problems. For unknown reasons acoustic neuromas are more common in women than men.

The causes of acoustic neuromas are unknown, however there is a link with a neurological illness called type II neurofibromatosis. Research is being carried out into the possible causes.

Signs and Symptoms

As an acoustic neuroma is a slow-growing tumour, symptoms often develop gradually over several years. The most common symptom is loss of hearing in the affected ear. There may also be a buzzing or ringing noise in the ear (tinnitus) and a feeling of fullness in the ear.

Acoustic neuromas can also cause people to walk awkwardly or stumble and have problems keeping their balance.

If the positioning of the tumour causes it to press on the nearby nerve that controls feeling and sensation of the face, it can result in numbness or tingling of half of the face. Rarely, the facial muscles can become weak on one side.

General signs of an acoustic neuroma are that of headaches, tiredness and lack of energy (lethargy). Changes in personality are rarely seen in people with an acoustic neuroma. However, larger tumours occasionally lead to a blockage in flow of cerebrospinal fluid (CSF), causing headaches, and sight changes.

People who develop acoustic neuromas as part of type II neurofibromatosis usually have tumours affecting both sides of the brain (bilateral tumours).

In order for your treatment to be planned by the doctors they would need to find out as much as possible about the type, position and size of the tumour. They will do this by carrying out a number of tests and investigations.

Neurological Examination (nerve tests)

You will usually have a neurological examination to assess any effect of the tumour on your nervous system. Your hearing will be tested and sometimes a test is done to check your sense of balance.

CT (computerized tomography) scan

A CT scan takes a series of X-rays which build up a three dimensional picture of the inside of the body. The scan is painless and takes from 10-30 minutes. CT scans use a small amount of radiation, which will be very unlikely to harm you and will not harm anyone you come in contact with. You will be asked not to eat or drink for at least four hours before the scan.

Most people who have a CT scan are given a drink or injection to allow particular areas to be seen more clearly. This may make you feel hot all over. Before having the injection or drink, it is important to tell the person doing this test if you are allergic to iodine or have asthma.

MRI (magnetic resonance imaging) scan

This test is similar to a CT scan, but uses radio waves instead of X-rays to build up a detailed picture of areas of your body. During the scan, you will be asked to lie very still on a couch inside a long tube for about 30 minutes. It is painless, but can be uncomfortable, and some people feel a bit claustrophobic during the scan. It is also noisy, but you will be given earplugs or headphones.

Some people will be given an injection of dye into a vein in the arm, but this usually does not cause any discomfort.

The diagnosis of an acoustic neuroma is usually obvious from the MRI brain scan.

Consent

No medical treatment can be given without your consent, so the doctor will give you full information about what the treatment involves and will explain the aims of it to you. They will usually ask you to sign a form saying that you give your permission (consent) for the hospital staff to give you the treatment.

Treatment

The treatment for an acoustic neuroma depends on a number of factors, including your general health and the size and position of your tumour. The results of your tests will enable your doctor to decide on the best type of treatment for you.

Your treatment will usually be decided by a team of specialists known as a multidisciplinary team (MDT). The team will usually include a: doctor who operates on the brain (neurosurgeon) a doctor who specialises in treating illnesses of the brain (neurologist), a specialist nurse and possibly other health professionals, such as a physiotherapist or a dietitian. If radiotherapy is needed, your team may also include a cancer specialist (oncologist) even though this tumour is benign. Sometimes, particularly if the tumour is small, and if it is only causing a few symptoms, immediate treatment may not be needed. This is because acoustic neuromas tend to be very slowly-growing and it may be a long time before any problems develop, if they develop at all. In this situation regular scans will be done to check for any growth of the tumour.

Benefits and Disadvantages of treatment

Treatment can be given for different reasons and the potential benefits will vary for each person. If you have been offered treatment that aims to cure your condition, deciding whether to have the treatment may not be difficult. However, if a cure is not possible and the treatment is to control the tumour for a period of time, it may be more difficult to decide whether to go ahead.

If you feel that you cannot make a decision about your treatment when it is first explained to you, you can always ask for more time to decide.

You are free to choose not to have the treatment and the staff can explain what may happen if you do not have it. You do not have to give a reason as to why you may not want the treatment, but it can be helpful to let staff know your concerns so that they can give you the best advice.

The Gamma Knife (Stereotactic Radiosurgery)

Stereotactic Radiosurgery is delivered using a machine called the Gamma Knife. It can be given as a single dose of focused treatment, in which hundreds of beams of radiotherapy are aimed at the tumour in a single session. This is a very accurate treatment and is used mainly for smaller tumours. For more detailed information about this treatment, ask your doctor, nurse or patient support assistant for a patient guide.



Surgery

In many cases the tumour can be completely removed and no further treatment is necessary. Before you have surgery your doctor will discuss the possible risks associated with this type of operation.

Unfortunately, hearing loss in the affected ear cannot be avoided for many people. Often, a hearing aid which diverts sounds from the affected ear to the good ear can be fitted. Your doctor will be able to give you more information about this. Hearing therapists (contactable through your GP) can help with special equipment for people with hearing problems and they also provide counseling and help with communication.

For people with tumours affecting both ears and have the possible

risk of total hearing loss, surgery may be delayed if at all possible and the tumours will be monitored for any growth. Occasionally one side will be operated on first this is usually the side with worse hearing loss.

If the person can still hear through this ear after the first operation, the other side can then be operated on. If hearing is lost during the first operation it may be possible to delay surgery on the second tumour, or to use radiotherapy, which is less likely than surgery to cause hearing loss.

Occasionally, during surgery the facial nerve may be slightly damaged. This can cause temporary or permanent numbness or drooping (palsy) of one side of the face. Facial palsy can cause problems with facial movements, such as chewing and blinking. Often, exercises and massage can help to stimulate facial movement, but these should be done under medical supervision. The British Acoustic Neuroma Association produces information about practical ways to cope with facial palsy.

Damage to the facial nerve, which controls blinking, may lead to eye problems such as dry eyes or difficulty in closing the eye properly. Your doctor can refer you to an eye specialist if necessary.

Occasionally, the surgeon will have to leave a tiny part of the tumour, to avoid causing nerve damage. In this situation you will need to have regular MRI scans to check the tumour every couple of years. It is very rare for these tiny parts of the tumour to regrow.

Radiotherapy

Radiotherapy treatment uses high-energy rays to destroy the tumour cells. It can be used to treat acoustic neuroma as an alternative to surgery. Radiotherapy may be given as a course of treatment over a number of days or as a single session.



Stereotactic Irridation

This treatment does not remove the tumour, but prevents further growth. After this treatment you will need to have MRI scans every 1-2 years to monitor the tumour.

Each type of treatment entails some risk of permanent change in hearing, balance, and facial motion. Some people may experience imbalance for several months after surgery.

Your Feelings

You may find the idea of a tumour affecting your brain extremely frightening. The brain controls the body, and not being in control is something that can be very worrying. You may experience many different emotions, including anxiety and fear. These are all normal reactions that are part of the process many people go through in trying to come to terms with their condition, and are not the result of the tumour.

Many people find it helpful to talk things over with their doctor or nurse or with one of our patient support assistants. Close friends and family members can also offer support.

References

This section has been compiled using information from a number of reliable sources, including:

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Nova Healthcare supports the British Acoustic Neuroma Association (BANA)

<http://www.bana-uk.com/>



A page for your notes



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