The Medical Minute: Acoustic neuromas -- benign but lethal

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(PhysOrg.com) -- Have you had a gradual hearing loss in one ear? Have you noticed worsening ringing in one ear? Do you find yourself getting dizzy or feeling off-balance just standing still? Have you "switched ears" when talking on the phone? These may all be signs that you might need to have your hearing checked. They may also be symptoms of a benign, or slow growing tumor on the nerve that plays a large part in your hearing and balance.

Unilateral hearing loss, difficulty maintaining your balance, and difficulty adjusting your eyes may all be subtle symptoms of a small tumor called an acoustic neuroma. This type of tumor grows from the Schwann cells in the eighth cranial nerve known as the vestibulocochlear nerve. This nerve originates in the brainstem and is one of the components responsible for your hearing and balance. No one quite knows why these tumors develop, but they develop very slowly over time, often taking several years to finally cause any symptoms of hearing loss, ringing in the ear, or balance problems. These tumors begin near the entrance to the internal auditory canal and grow into the petrous bone as well as more internally towards the brainstem. In some people, they can be quite large before they become detected.

For many years, the treatment of these types of tumors included "watchful waiting," surgery, or localized radiation. Within the past several years, stereotactic radiosurgery, or Gamma Knife, has become the preferred method of treatment for many of these tumors. Sometimes, these tumors are found incidentally, during routine testing for other types of neurologic diseases or problems (headaches, head injuries, etc.). Not all people who have acoustic neuromas develop symptoms, nor do all patients need to be treated.

"Watchful waiting" means that the tumor is monitored through the use of magnetic resonance imaging (MRI) on a yearly basis to see if it is growing. Although some tumors grow along the nerve slowly, physicians can choose to watch it over the course of several years to see if a given tumor is actively growing or not. Many non-growing tumors do not need treatment, but careful follow-up is necessary to detect future growth. Certainly if symptoms arise, then treatment would be indicated.

Surgical intervention is indicated if the tumor is excessively large or compresses the brainstem to a problematic extent. Surgery can often take several hours and require several specialists to perform the surgery (usually a neurosurgeon and an otolaryngologist, commonly known as an ear, nose, and throat specialist). Hearing loss is almost a certainty, though sometimes it can be spared if the tumor is of a small or moderate size. Surgical intervention will require a hospital stay of less than a week, and a recovery of up to about 8-12 weeks.

Standard radiation treatments may also be an option for some patients. Depending on the size of the tumor, some surgeons have suggested that patients undergo traditional radiation to assist in shrinking the tumor before a surgical procedure. This would entail the delivery of low-dose, focused radiation on a daily basis for several weeks to the tumor area. This type of treatment has somewhat fallen out of favor and is used rarely today.

Stereotactic radiosurgery can also be utilized and in recent years, has become the preferred method of treatment for many patients. This is most often and most accurately delivered using the Gamma Knife. This treatment consists of precisely delivering high-dose radiation to the tumor in a single outpatient treatment that lasts about 2-4 hours. The treatment controls the tumor in the vast majority of cases and is extremely safe. After the treatment, there is little recovery, minimal complications and one could return to work the next day, or even a few hours after the procedure. The dose of radiation causes the tumor to stop growing, and in some cases, the tumor can even shrink over time.