Common antibacterial treatment linked to sensorineural hearing loss in cystic fibrosis patients

1 July 2009

An otherwise effective treatment for cystic fibrosis places patients at a high risk of sensorineural hearing loss, according to new research published in the July edition of *Otolaryngology-Head and Neck Surgery*.

Cystic fibrosis is an inherited chronic disease that affects the lungs and digestive system of about 30,000 children and adults in the United States (70,000 worldwide). A defective gene and its protein product cause the body to produce unusually thick, sticky mucus that clogs the lungs and leads to life-threatening lung infections; and obstructs the pancreas and stops natural enzymes from helping the body break down and absorb food.

Researchers reviewed the medical records of cystic fibrosis (CF) patients at Children's Hospital Boston over a 13 year period, and found that seven of 50 CF patients (14%) suffered from sensorineural hearing loss. Of that group, 43 percent of those that had received aminoglycosides intravenously had received more than 10 courses of the treatment; patients who were treated more than five times with nasal irrigation of aminoglycosides were also at risk of sensorineural hearing loss.

Because CF patients are prone to suffer from infections of the pulmonary and sinonasal systems, aminoglycosides are commonly administered to CF patients because of the potent effect they have on bacteria. The treatment is considered so effective that it outweighs the well-known side-effects, which include hair cell loss, and thus hearing loss.

The authors contend that CF patients should have routine hearing evaluations that specifically target the detection of sensorineural hearing loss, especially when repeated courses of systemic or intranasal aminoglycosides have be used in treatment. They also note that further investigation through a prospective study is warranted in order to replicate these results.

Source: American Academy of Otolaryngology -- Head and Neck Surgery