

# Multiple sclerosis and unilateral hearing loss: A case report

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## Background

Multiple sclerosis is a degenerative autoimmune disease of the central nervous system (CNS), meaning number (multiple) and condition of hardening (sclerosis) of the demyelinated areas, especially the white matter of the per ventricular region, in the CNS. It has an onset in early adulthood between 20-40 years old, with a ratio favoring Caucasians and women

Symptoms: visual disturbances, fatigue, spasticity, weakness in extremities, cognitive difficulties, dizziness, vertigo, paresthesia, trigeminal neuralgia, depression, mood changes, psychosis

In 6% of the cases we may find hearing acuity loss or tinnitus, in rare cases we may find deafness as the first symptom of MS

## Aim

Evaluate the role of a sudden unilateral neurosensory hearing loss as the first symptom of MS, especially in a young patient.

After a thorough ENT examination, audiometry, tympanometry and stapedial reflexes, ABR testing, MRI with gadolinium is always the gold standard examination in a young asymptomatic patient

## Case report: Patient and method

E.P, nurse, 21 years old, complaining of left unilateral hearing loss from one month.

She has been using headphones listening to music in high volume and she thought that stopping it would improve the complains, so she came after one month in the ENT clinic.

We performed otoscopy, audiometry, tympanometry, ABR testing.

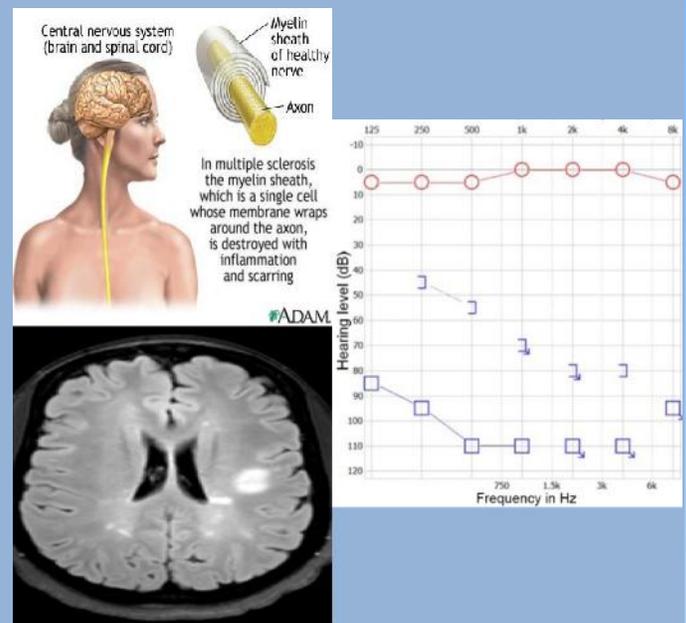
We performed MRI with gadolinium and a neurological examination.

## Results and therapy

In the ENT examination we found a grave neurosensory left hearing loss in the audiometry, Type A tympanogram, normal right and left ipsilateral reflex thresholds, normal ABR findings

Neurological examination resulted normal, but in the MRI with gadolinium examination we found a demyelination plaque or a left lesion of the per ventricular white matter

She went under corticosteroid therapy associated with vasodilators and vitamin therapy for the sudden hearing loss



## Conclusions

After one 15 days of therapy audiometry test showed an improvement at about 30 % of her hearing levels, that did not improve any more, even after 1 month of therapy.

When she came back after two months she started to have little spasticity in the extremities while walking and speech problems, so the clinical data for MS began to fulfill.

A good ENT examination and a NEUROLOGICAL EXAMINATION as well as MRI with gadolinium lead us to a better and fast diagnose in a patient with NUHL as the first symptom of MS