**Polyarteritis Nodosa: A Human Temporal Bone Study**

**INTRODUCTION**

The aim of this histopathologic study is to evaluate temporal bone changes in polyarteritis nodosa and assess the correlation between otologic manifestations and multisystemic involvement.

**METHODS AND MATERIALS**

All the temporal bones used in this study had been previously obtained at autopsy. They were fixed in formalin solution, decalcified and embedded in paraffin. Thin sections were taken and stained with hematoxylin and eosin and mounted on glass slides for light microscopic study.

**CASE 1**

- 50-year-old male; right-sided facial weakness.
- History of sudden onset, bilateral, progressive hearing loss and tinnitus in the right ear.
- Frequent episodes of 'head colds', occipital headaches and occasional dizzy spells.

**Right Temporal Bone**

- Chronic inflammatory and vascular changes of the middle ear and the fallopian canal similar to the left side.
- Facial nerve in the Fallopian canal was reduced to a "mound of cells" in all turns.
- Organ of Corti were reduced to a "mound of cells" in all turns and the transitional membrane showed atrophy. Spiral ganglion cells appeared normal.
- Stria vascularis showed infiltration with a brown colored pigment and seropurulent effusion in the round window niche obliterating the perilymphatic space of the cochlea.
- Vessel walls in the submucosal space were thickened and inflamed. Arteritis also seen in vessels of the fallopian canal.

**Left Temporal Bone**

- Middle ear: Tympanic membrane thickened; Seropurulent effusion.
- Vessel walls in the submucosal space were thickened and inflamed. Arteritis also seen in vessels of the fallopian canal.
- Palpation of the mastoid revealed a soft tissue mass anterior to the sigmoid sinus and posterior to the middle ear region.

**CONCLUSIONS**

Numerous temporal bone findings were seen in patients with polyarteritis nodosa, including otitis media, cochlear damage, neogenesis and middle and inner ear vascular changes.

**REFERENCES**