Intralabyrinthine Acoustic Neuromas

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INTRODUCTION
Acoustic neuromas may arise either within the internal auditory canal (IAC) or along the labyrinth. Intralabyrinthine schwannomas are the most common tumor found in the IAC and may arise from either division of the eighth cranial nerve. Theoretically, a schwannoma may begin primarily within the labyrinth, but there is little evidence to support this. Before the advent of MRI, most cases were incidentally diagnosed during labyrinthectomy for Meniere’s disease or during surgery for tinnitus. Radiologic and clinical features may not be sufficient to diagnose the presence of the tumor for an isolated tumor in the labyrinth. Intralabyrinthine schwannomas are most common in the basal turn of the cochlea and scala tympani and may arise from either division of the eighth cranial nerve. During the course of the study, there were five patients with an enhancing lesion within the labyrinth, one of which had a large tumor. Ten patients had tumors that were completely intracochlear. The mean age of the patients was 64 years (range 45-82 years). The mean follow-up period was 5.2 years. The mean follow-up period was 5.2 years.

RESULTS

Critical Presenting Symptoms

In our series of patients, the most common presenting symptoms were hearing loss, tinnitus, and vertigo. Small tumors may be asymptomatic. None of the patients had neurofibromatosis type 2. Audiologic Assessment
The diagnosis of IS in all patients was based on characteristic enhancing imaging (T1-weighted, T2-weighted, and gradient-echo) on contrast-enhanced T1-weighted images. Nine tumors were isolated to the cochlea (usually the basal turn), three only involved the vestibule, two involved both the cochlea and the vestibule, and one involved the vestibule and lateral internal auditory canal. Management and Outcome
In our series, medical management was the first line of treatment for patients with IS. Six patients were surgically treated with either partial or total removal of tumor. Two patients had disease progression after surgery. Two patients were treated with stereotactic radiation therapy. The mean age of the patients was 64 years (range 45-82 years). The mean follow-up period was 5.2 years. The mean follow-up period was 5.2 years.

DISCUSSION

In a review of the literature, the most common presenting symptom was hearing loss, followed by tinnitus and vertigo. The duration of hearing loss before diagnosis ranged from 3 months to 31 years. Three patients experienced sudden sensorineural hearing loss before diagnosis. Two patients were treated with surgery and the third with radiation therapy. Patients with radiologic and clinical features characteristic of a schwannoma may require more aggressive treatment. The mean follow-up period was 5.2 years. The mean follow-up period was 5.2 years.

CONCLUSIONS
Intralabyrinthine schwannomas are rare tumors and the incidence has probably been underestimated. High-resolution MRI and a high index of suspicion will lead to the recognition of many more cases to be diagnosed in the future. Surgery is the treatment of choice. Intravestibular schwannomas are more commonly diagnosed with MRI, whereas intracochlear schwannomas are less frequently diagnosed. Intralabyrinthine schwannomas should be diagnosed with MRI to avoid overlooking an enhancing lesion within the labyrinth. However, in our series, only 27% of patients required surgery or stereotactic radiation. For tumors confined to the labyrinth, observation with serial MRI is the treatment of choice.

REFERENCES