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(Table 1).  
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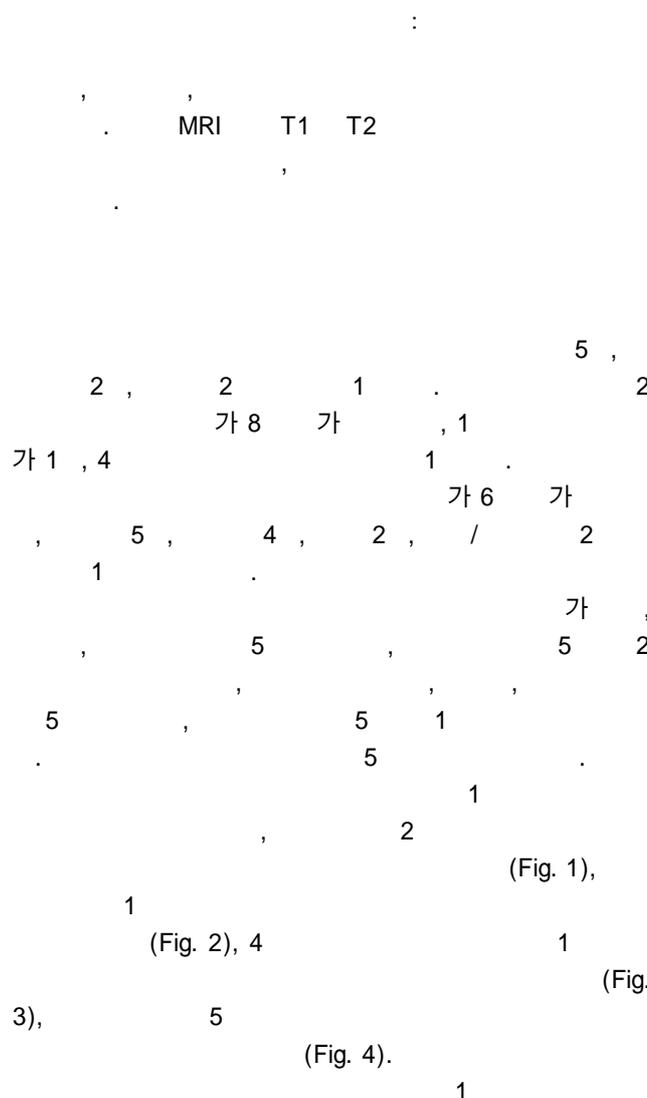
1  
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CT 6 ( CT 4 , CT 2 )  
 MR 1.5 Tesla Magnetom Vision  
 (Siemens, Erlangen, Germany) 1.5 Tesla Signa (GE medical system, Milwaukee, Wisconsin, U.S.A.) MR

T1 (TR/TE, 500 - 550 msec/15 - 20 msec),  
 T2 (TR/TE, 4000 - 4500 msec/80 - 120 msec) , Gadolinium - DTPA (Magnevist, Schering, Germany) 0.1 mmol/kg

T1 3 mm, 3 mm, FOV 20 cm, 256 x 192 . CT Somatom Plus (Siemens, Erlangen, Germany) CT 4 3 mm, 5 mm

가 CT 2 1 mm bone algorithm



(Fig. 1),

(Fig. 2), 4

(Fig. 3),

(Fig. 4).

**Table 1.** Summary of 10 Patients with Facial Nerve Schwannoma

Case	Sex	Ages	Epicenter of tumor	Symptoms			Involving Segments		MRI			Shape		Site of Bone Change*
				FP	HL	PM	Name	Number	T1WI	T2WI	CE	Axial	Coronal	
1	F	45	Cisternal	(+)	(+)		Ct, Cn	2	low	high	(+)	Icecream cone	Icecream cone	IAC(+)
2	F	34	IAC	(+)	(+)		Cn	1	low	high	(+)	Cone	Cone	IAC(+)
3	M	25	IAC	(+)	(+)		Ct, Cn	2	low	high	(+)	Cone	Cone	IAC(+)
4	M	50	Temporal	(+)	(+)		GG	1	low	high	(+)	Oval	Oval	GF(+)
5	F	51	Temporal	(+)	(+)		Cn, La/GG, Tm, M	4	low	high	(+)	Beaded	Beaded	FNC(+) GF(+)
6	M	23	Parotid	(-)	(-)	(+)	M, P	2	low	high	(+)	Round	Club	SMF(+) FNC(+)
7	F	43	Parotid	(-)	(+)	(+)	M, P	2	iso/low	high	(+)	Round	Club	SMF(+) FNC(+)
8 <sup>†</sup>	M	31	Parotid	(+)	(-)	(+)	M, P	2	iso/low	high	(+)	Round	Club	SMF(+) FNC(+)
9	F	47	Parotid	(+)	(-)	(+)	M, P	2	low	high	(+)	Round	Club	SMF(+) FNC(+)
10	F	60	Parotid	(-)	(-)	(+)	M, P	2	low	high	(+)	Round	Club	SMF(+) FNC(+)

FP : Facial paralysis, HL : Hearing Loss, PM : Parotid mass, IAC : Internal auditory canal, Ct : Cisternal segment, Cn : Canalicular segment, La/GG : Labyrinthine segment/geniculate ganglion, Tm : Tympanic segment, M : Mastoid segment, P : Parotid segment.

CE: Gadolinium contrast enhancement on MRI

\*Site of bone change on CT/MRI

SMF : Stylomastoid foramen widening

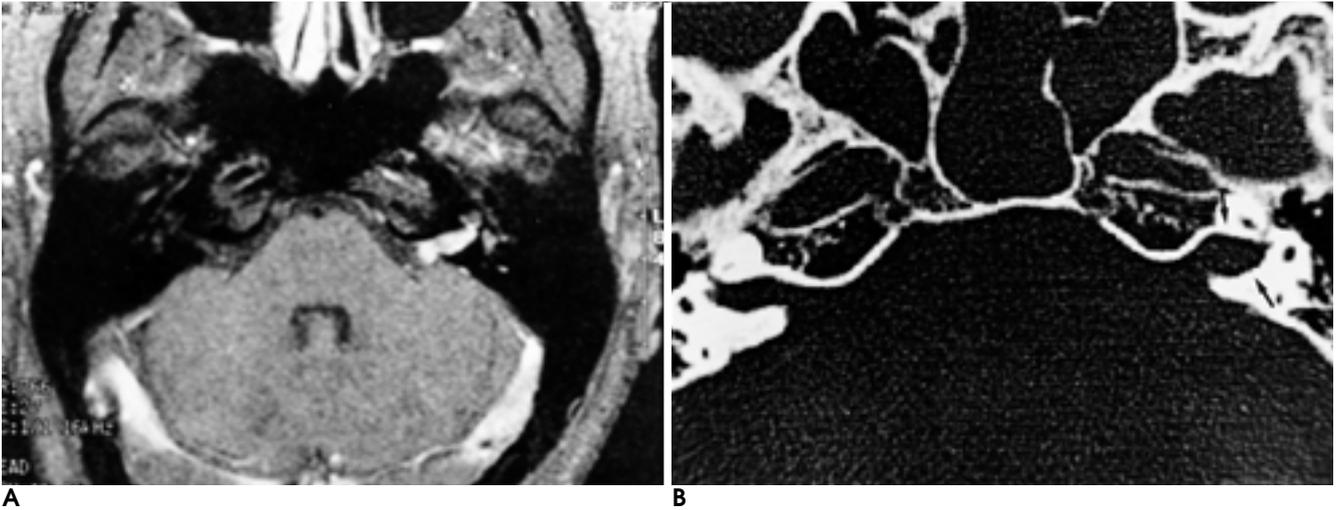
IAC : Internal auditory canal widening

FNC : Facial nerve canal widening

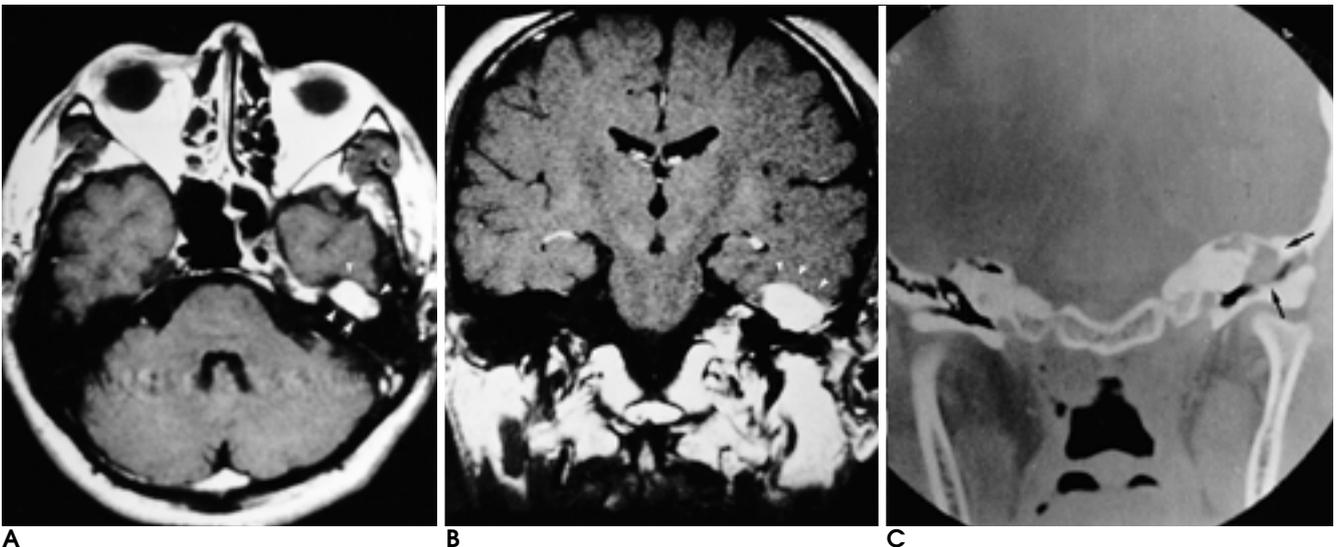
GF : Geniculate fossa erosion

<sup>†</sup> Case 8 : multiple schwannomas, cranial nerve VII and lower cranial nerve

2 (Fig. 1), 4  
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 5 (Fig. 4) 1 (Fig. 3) 1 (Case 8)  
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 (Fig. 4).  
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**Fig. 1.** A 25 year-old man with facial nerve schwannoma involving left intracanalicular segment and cisternal segment (case 3).  
**A.** Post-contrast T1 weighted axial image shows a cone-shaped enhancing mass in the intracanalicular segment and partly cisternal segment of left facial nerve.  
**B.** Temporal bone CT at the same level shows fusiform widening of the left internal auditory canal (arrows).



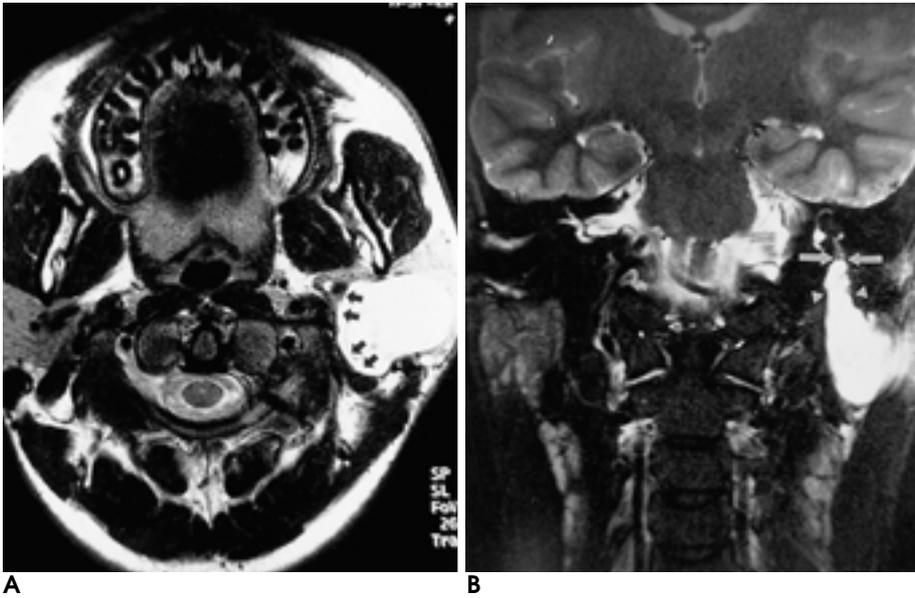
**Fig. 2.** A 51 year-old man with facial nerve schwannoma involving the geniculate ganglion (case 4).  
**A.** Post-contrast T1 weighted axial image shows an oval-shaped well enhancing mass (arrowheads) near the epitympanum.  
**B.** Post-contrast T1 weighted coronal image shows an oval-shaped enhancing mass around left geniculate fossa with extension into middle cranial fossa (arrowheads).  
**C.** Temporal bone CT scan shows an soft tissue mass with erosive change of the geniculate fossa with extension into the epitympanic cavity (arrows) .



**Fig. 3.** A 51 year-old woman with diffuse facial nerve schwannoma (case 5).

**A.** Post-contrast T1 weighted axial image shows multiple beaded enhancing masses in the intracanalicular, labyrinthine/geniculate ganglion and the tympanic segments (arrowheads).

**B.** Temporal bone coronal CT shows widening of mastoid segment (arrows) and stylomastoid foramen (open arrow).



**Fig. 4.** A 23 year-old man with facial nerve schwannoma involving left mastoid and parotid segments (case 6).

**A.** Axial T2 weighted image shows a well marginated oval-shaped mass with high signal intensity in the deep lobe of the left parotid gland and widening of the digastric groove (arrows).

**B.** Coronal T2 weighted image shows a club-shaped mass in left parotid gland, extending into the left stylomastoid foramen (arrowheads) and the mastoid segment (arrows).

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## Intratemporal and Extratemporal Facial Nerve Schwannoma: CT and MRI Findings<sup>1</sup>

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**Purpose:** To analyze the characteristics of CT and MRI findings of facial nerve schwannoma in ten patients.

**Materials and Methods:** Ten patients with pathologically confirmed facial nerve schwannoma, underwent physical and radiologic examination. The latter involved MRI in all ten and CT scanning in six. We analyzed the location (epicenter), extent and number of involved segments of tumors, tumor morphology, and changes in adjacent bony structures.

**Results:** The major symptoms of facial nerve schwannoma were facial nerve paralysis in seven cases and hearing loss in six. Epicenters were detected at the intraparotid portion in five cases, the intracanalicular portion in two, the cisternal portion in one, and the intratemporal portion in two. The segment most frequently involved was the mastoid (n=6), followed by the parotid (n=5), intracanalicular (n=4), cisternal (n=2), the labyrinthine/geniculate ganglion (n=2) and the tympanic segment (n=1). Tumors affected two segments of the facial nerve in eight cases, only one segment in one, and four continuous segments in one. Morphologically, tumors were ice-cream cone shaped in the cisternal segment tumor (1/1), cone shaped in intracanalicular tumors (2/2), oval shaped in geniculate ganglion tumors (1/1), club shaped in intraparotid tumors (5/5) and bead shaped in the diffuse-type tumor (1/1). Changes in adjacent bony structures involved widening of the stylomastoid foramen in intraparotid tumors (5/5), widening of the internal auditory canal in intracanalicular and cisternal tumors (3/3), bony erosion of the geniculate fossa in geniculate ganglion tumors (2/2), and widening of the facial nerve canal in intratemporal and intraparotid tumors (6/6).

**Conclusion:** The characteristic location, shape and change in adjacent bony structures revealed by facial schwannomas on CT and MR examination lead to correct diagnosis.

**Index words :** Nerves, facial  
Nerves, CT  
Nerves, MR  
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