

가 : CT MR <sup>1</sup>

. 2 . 2 . 3 . 3 . .

: 가 MR CT

. : 11 가 MR

(n=10) CT (n=9) . 9

: (n=8), (n=6), (n=5), (n=4), (n=3),

(n=2), (n=2), (n=2), (n=1), (n=1),

(n=1) . 11 10 가 , 6

. MR 10 9 T2 -

, 4 . 5 가

: 가 T2 -

가 (inflammatory pseudotumor) 1905 MR CT

Birch - Hirschfield , .

가 .

. , ,

가 가

(1 - 5), ,

(plasma cell) 가 가

(6 - 8). 11 MR CT 가

가 , 35 75 ( 52 )

(2 - 3), 가 5 , 가 6 .

. , , 20 10

. 가 . 11 9 , 2

가 ,

. , ,

(1, 2, 5).

가 (lymphoid cell),

(hyalinization)

가 .

11 CT MR 8 , MR

2 , CT 1 . MR

<sup>1</sup>

<sup>2</sup>

<sup>3</sup>

2001 8 8

2001 12 26

8 1.5T Signa (General Electric, Milwaukee, Wis, U.S.A.) 2 1.5T Magnetom (Siemens, Erlangen, Germany)가 (NEX) 1 - 2 , . CT 4 - 5 mm, 1 mm T1 - (TR/TE, 11 가 9 500 - 700 msec/10 - 14 msec) T2 - (TR/TE, 3000 - 9 가 3 - 32 ( 5500 msec/85 - 100 msec) , 2 CT, 6 (0.1 mmol/kg, Magnevist, Schering, Germany) T1 - MR, 1 CT MR , . CT 6 Somatom plus 4(Simens, Erlangen, Germany) 1 - 2 mm, 3 - 5 mm , 3 GE Hispeed RP Slow(GE Medical systems, Milwaukee, Wis, U.S.A.) 3 mm CT MR Table . MR , , 가 MR (masticator space) 8 , (buccal space) 6 ,

**Table.** CT and MR Imaging Findings in 11 Patients with Inflammatory Pseudotumor of the Extraorbital Head and Neck

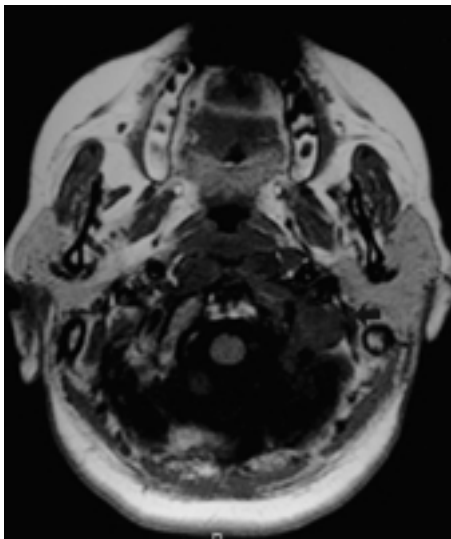
Case No	Age/ Sex	Imaging studies	Location	Intracranial involvement	Bone change	Degree of Signal intensity on MRI			F/U period (months)	Response after Tx
						T1WI	T2WI	CE		
1	66/M	CT, MR	PPS, Nasopharynx, MS	No	Basiocciput, Peterous	sl. low	sl. low/mk low	+++	32	Response->Recur
2	52/M	CT, MR	MS, BS	Dura	Spheonid	iso/sl. low	sl. high/mk. low	+++	None	
3	54/M	MR	MS, BS, PPS, Nasopharynx, Prev. S, PS, CS	Cavernous sinus, Dura	Sphenoid, Petrous, Basiocciput	iso	sl. low/mk. low	+++	14	Response->Recur
4	62/F	CT, MR	Prev. S, Parav. S, Nasopharynx	Cavernous sinus	Basiocciput, Petrous	iso	iso/sl. high	+++	7	Response->Recur
5	66/F	CT, MR	PPS, Nasopharynx, CS, MS	Cavernous sinus	Sphenoid, Petrous	iso	sl. low	+++	5	Response
6	75/M	CT, MR	MS, BS, PS	No	Maxilla	iso	sl. high/sl. low	+++	1	Response
7	62/F	CT, MR	PNS, MS, BS, Facial muscle	No	Maxillary sinus	iso	iso/mk. low	+++	4	Response
8	44/F	CT, MR	PNS, MS, BS, Facial muscle	No	Maxillary sinus	iso	iso/sl. low	+++	4	Response
9	70/F	MR	Nasopharynx, Orbit	Dura	No	iso	sl. low	+++	3	Aggravated
10	36/F	CT, MR	PNS, MS, BS, Orbit, Facial muscle	Cavernous sinus	Maxillary sinus	iso	sl. low	+++	None	
11	57/M	CT	PNS, Nasal & Oral cavity	No	Maxillary sinus				3	Response

CS; carotid space  
PNS; paranasal sinus  
PPS; parapharyngeal space  
MS; masticator space  
BS; buccal sapce  
Prev. S; prevertebral space  
Parav. S; paravertebral space

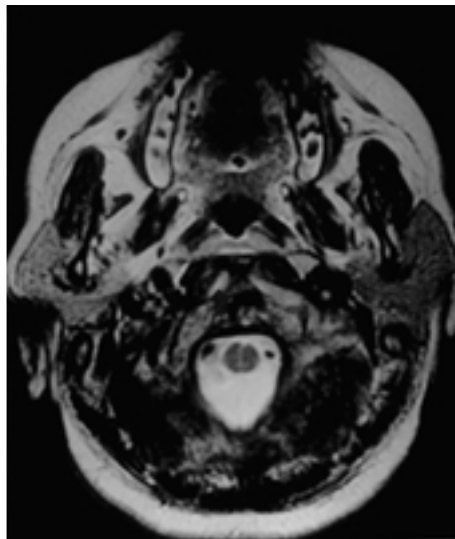
PS; parotid space  
IntraC.; intracranial  
sl. low; slightly low  
sl. high; slightly high  
mk. low; markedly low  
CE; contrast enhancement  
+++; strong enhancement

(pharynx) 5 , (paranasal sinus) 4 ,  
 (parapharyngeal space) 3 , (prevertebral space) 2 MR 10  
 , (carotid space) 2 , (orbit) 2 ,  
 (paravertebral space) 1 , (parotid space) 1 , 8  
 , 1 . 10 가  
 (Fig. 1), 6 , 1 4  
 가 , 3 가 .  
 3 , (petrous) 3 , 3 , 3 T2 -  
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 (Figs. 3, 4). 1  
 (Fig. 1),  
 11 가

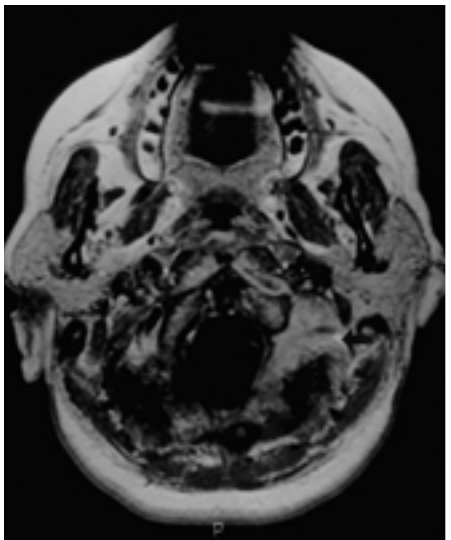
T1 -  
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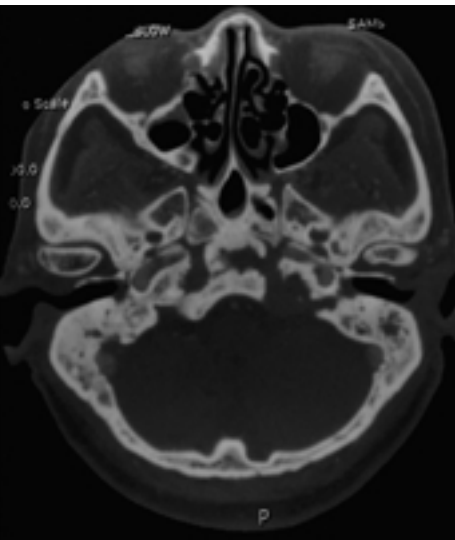
A



B



C



D

**Fig. 1.** A 62-year-old woman (case 4).  
**A.** T1-weighted axial MR image shows ill margined isosignal intensity mass in prevertebral and paravertebral space in the left neck (black arrow). Fatty marrow of ipsilateral basiocciput is replaced by soft tissue.  
**B.** T2-weighted axial MR image shows iso to slightly high signal intensity mass in the left neck. Also noted is high signal intensity in the right prevertebral space (black arrow).  
**C.** Gd-enhanced T1-weighted axial MR image shows strong enhancement of mass (black arrow).  
**D.** Axial CT image with a bone window setting shows destruction of the left occipital and petrous bones.

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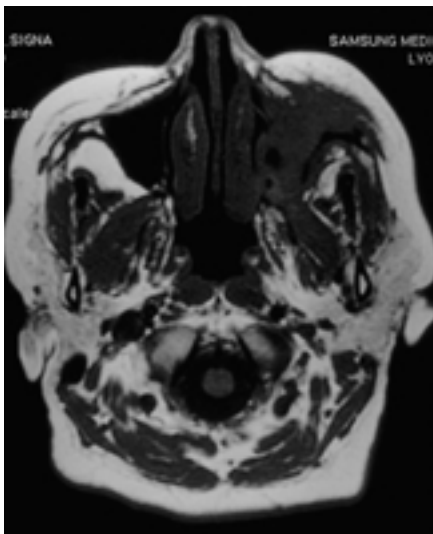
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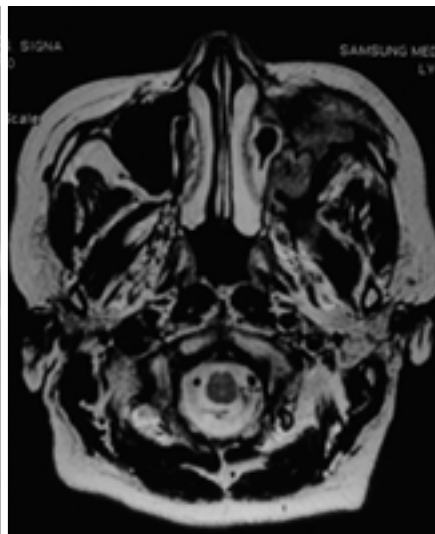
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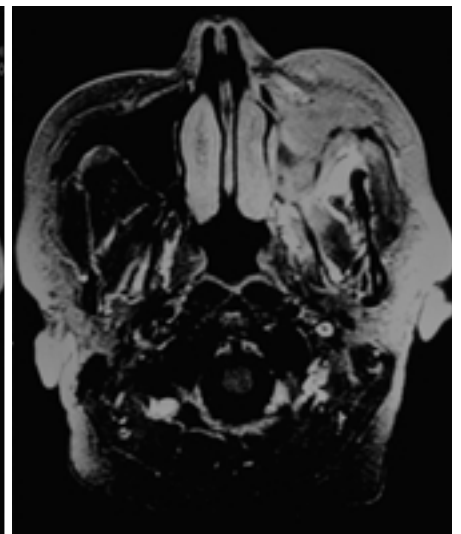
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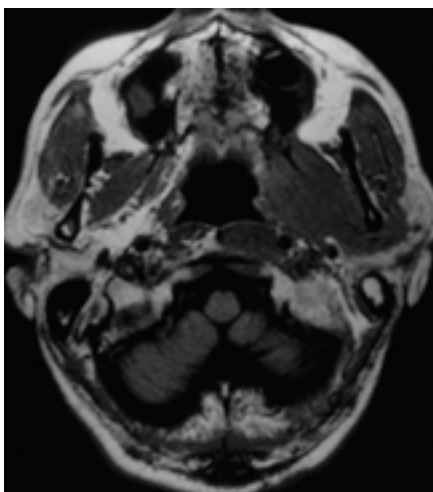
C

**Fig. 2.** A 44-year-old woman (case 8).

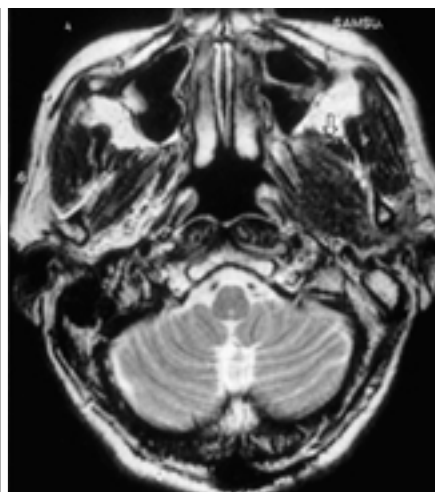
**A.** T1-weighted axial MR image shows isosignal intensity mass in the left maxillary sinus, masticator space, and facial muscle.

**B.** T2-weighted axial MR image shows heterogeneous low signal intensity mass.

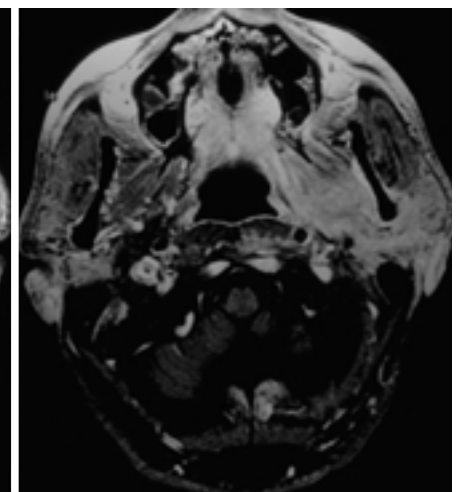
**C.** Gd-enhanced T1-weighted axial image shows strong enhancement of mass.



A



B



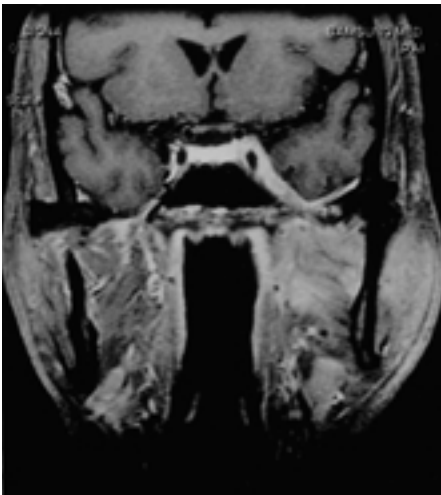
C

**Fig. 3.** A 54-year-old man (case 3).

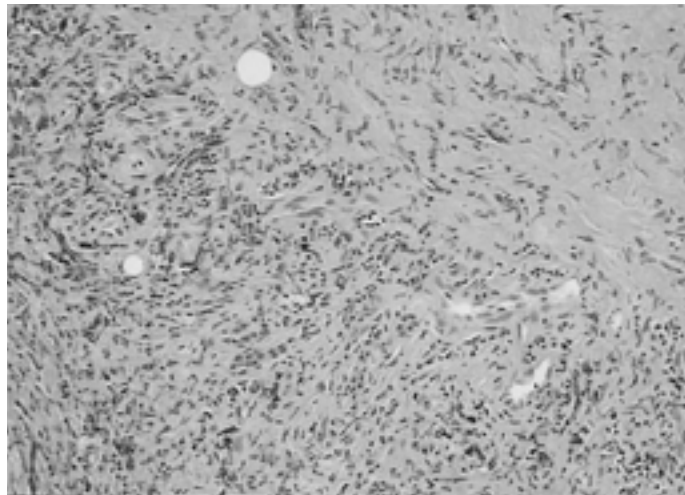
**A.** T1-weighted axial MR image shows involvement of multiple spaces including the left parapharyngeal, masticator, prevertebral, parotid, and carotid spaces by isosignal intensity mass.

**B.** T2-weighted axial MR image shows ill defined, markedly low signal intensity mass (open arrow).

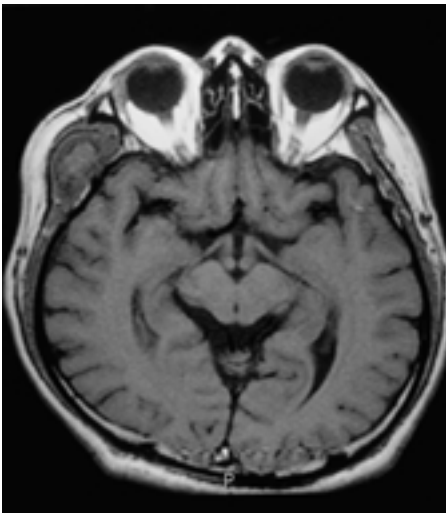
**C.** Gd-enhanced T1-weighted axial MR image shows strong enhancement of mass.



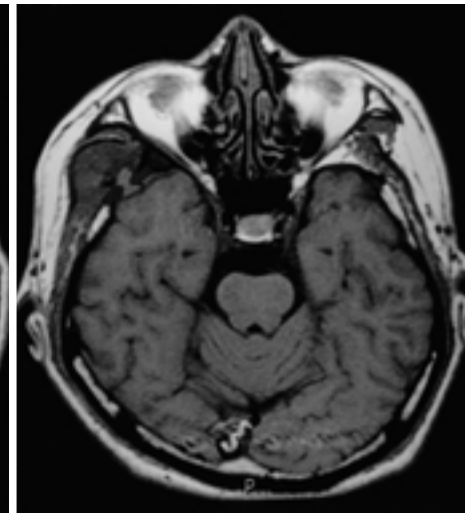
**Fig. 3. D.** Gd-enhanced T1-weighted coronal MR image shows a bulging of the left cavernous sinus with strong enhancement of adjacent dura (black arrow).



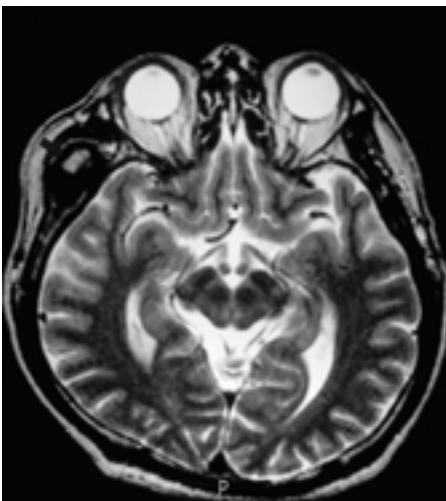
**E.** Histopathologically, the mass is composed of dense, fibrous connective tissue with fibroblasts or myofibroblasts and inflammatory cells (H & E, × 100).



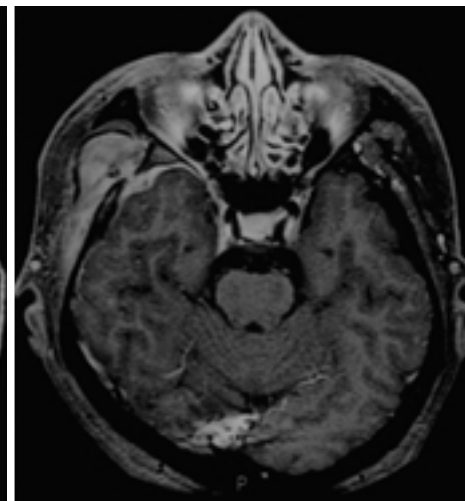
**A.** T1-weighted axial MR image shows heterogeneous signal intensity mass in the right temporal space with intracranial extension through the sphenosquamosal suture (black arrow). The lesion is isointense centrally and slightly hypointense peripherally.



**B.** T1-weighted axial MR image shows heterogeneous signal intensity mass in the right temporal space with intracranial extension through the sphenosquamosal suture (black arrow). The lesion is isointense centrally and slightly hypointense peripherally.



**C.** T2-weighted axial MR image shows high signal at the center and markedly low signal at the periphery of the lesion (black arrow).



**D.** Gd-enhanced T1-weighted axial MR image shows strong enhancement of the mass with intracranial extension through the sphenosquamosal suture.

**Fig. 4.** A 52-year-old man (case 2).

**A, B.** T1-weighted axial MR images shows heterogeneous signal intensity mass in the right temporal space with intracranial extension through the sphenosquamosal suture (black arrow). The lesion is isointense centrally and slightly hypointense peripherally.

**C.** T2-weighted axial MR image shows high signal at the center and markedly low signal at the periphery of the lesion (black arrow).

**D.** Gd-enhanced T1-weighted axial MR image shows strong enhancement of the mass with intracranial extension through the sphenosquamosal suture.

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(xan -	T2 -		
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thogranuloma), (histiocytoma),			
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(plasma cell granuloma)	(9,	. 2	
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## Inflammatory Pseudotumor of the Extraorbital Head and Neck: CT and MR Imaging Findings<sup>1</sup>

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**Purpose:** To determine the MR and CT imaging findings of inflammatory pseudotumor of the extraorbital head and neck.

**Materials and Methods:** We reviewed the MR ( $n=10$ ) and CT ( $n=9$ ) imaging studies of 11 patients with this condition (M:F=5:6, age range: 35 - 75 years), analysing each case in terms of location, occupying space, signal intensity, intracranial involvement, degree of contrast enhancement and adjacent bone change. Follow-up images were obtained in nine cases, and the response of each patient to steroid treatment was reviewed.

**Results:** Lesions involved the masticator space ( $n=8$ ), the buccal space ( $n=6$ ), the nasopharynx ( $n=5$ ), the paranasal sinus ( $n=4$ ), the parapharyngeal space ( $n=3$ ), the prevertebral space ( $n=2$ ), the orbit ( $n=2$ ), the carotid space ( $n=2$ ), the paravertebral space ( $n=1$ ), parotid space ( $n=1$ ), and the oral cavity ( $n=1$ ). In ten of eleven cases, there was adjacent bone change. In three cases, the cavernous sinus was involved, and in two, the dura. One case involved both of them. At T2-weighted imaging, the lesions showed hypointensity in nine of ten cases; in four of nine, signal intensity was markedly low, and in no case was it diffusely high. In five of nine cases, the mass decreased in size after steroid therapy.

**Conclusion:** Inflammatory pseudotumor showed iso-to hypointensity at T2-weighted imaging. Lymphadenopathy was not apparent.

**Index words :** Head and neck neoplasms, CT  
Head and neck neoplasms, MR

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