

## 돌발성 난청 환자들의 측두골 자기공명영상(MRI) 소견

가  
정민교 · 장기홍 · 여상원 · 서병도Findings of Magnetic Resonance Imaging in Sudden  
Sensorineural Hearing Loss

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## - ABSTRACT -

**Background & Objectives** : Although the two most popular causes of idiopathic sudden sensorineural hearing loss (SSNHL) include viral infection and vascular insult or ischemia, other causes must be evaluated. The important first step in treating patients with SSNHL is not to decide which of the plethora of treatment modalities to use, but rather ensure that it is idiopathic. So far, there is no definite conclusion on magnetic resonance imaging (MRI) findings of patients with SSNHL. So we were to evaluate the diagnostic effectiveness of MRI in these patients. **Materials and Methods** : The gadolinium-enhanced magnetic resonance images of 42 SSNHL patients who were evaluated at the St. Mary's and Kangnam St. Mary's hospital from November 1991 to July 1998 were retrospectively reviewed. **Results** : Four (9.5%) of these 42 patients were found to have a cause for their SSNHL on MRI with gadolinium contrast. These positive findings were enhancement of internal auditory canal, vestibule and cochlea, enhancement of proximal internal auditory canal, the finding suggesting infarction of anterior inferior cerebellar artery territory, and arteriosclerotic change of vertebral artery respectively. **Conclusion** : Viral infection, vascular insult or ischemia and internal auditory canal lesion were suspected to be the causes for SSNHL. We consider that earlier MRI would detect more frequent findings of membranous labyrinth enhancement finding representing viral infection. For the future, we believe it is essential that more prudent three dimensional fourier transformation constructive interference in steady state magnetic resonance imaging (3DFT-CISS MRI) with gadolinium should be performed immediately in every patient with SSNHL for proper evaluation and management. (*J Clinical Otolaryngol* 1999;10:174-177)

**KEY WORDS** : Sudden sensorineural hearing loss · Magnetic resonance image.

서 론

가<sup>1)</sup>

10%

2)3)

4)

: 1999 3 10

: 1999 11 29

: , 150 - 010

62

가

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5)6)7)

### 대상 및 방법

1991 11 1998 7  
가

3

30 dB  
42

5 mm, 3  
mm slice gadolinium  
T1 - weighted axial image가

Prednisolone 60 mg 5  
5  
nicotinic acid, low mol-  
ecular weight dextran

### 결 과

42 9  
5  
48.2 , 23:19 . 4  
(9.5%)

증 례 1 :  
59 / , , / (65 dB/40 dB).

dolinium

(MRI)

가(Fig. 1)가 . 가  
ESR,  
CRP, C3, C4, IgG, IgM, RA factor, antinuclear anti-  
body, anti - DNA antibody, cryoglobulin, FTA - ABS  
ESR 23 mm/hr 가

IgG 가 ,

1 가가  
2 가 . 3

증 례 2 :

45 / , , / (75 dB/60 dB).

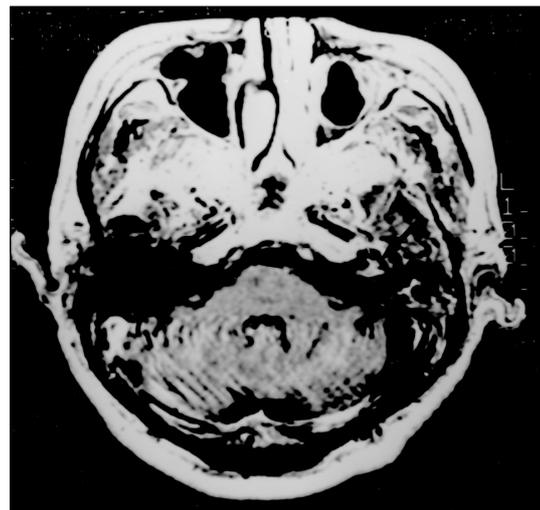
Gadolinium

가(Fig. 2)

증 례 3 :

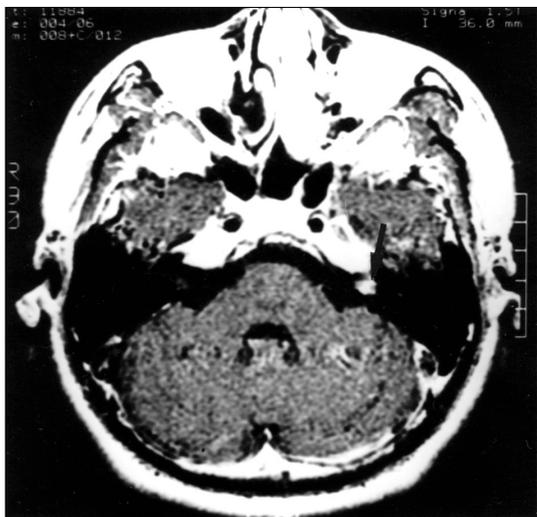
68 / , .

dolinium



ga -

Fig. 1. Gadolinium-enhanced T1 weighted axial MRI. There is contrast enhancement in the distal internal auditory canal and in the areas of cochlea and vestibule (arrow).



**Fig. 2.** Gadolinium-enhanced T1 weighted axial MRI. There is a roundish area of contrast enhancement in the vicinity of the porus of the left internal auditory canal (arrow).



**Fig. 3.** Gadolinium-enhanced T1 weighted axial MRI. Right vertebral artery shows marginal contrast enhancement (arrow) suggesting occlusive disease.



**Fig. 4.** T1 weighted axial MRI. There is ill-defined diffuse high signal intensity lesion (arrow) at the posterolateral aspect of right cerebellar hemisphere suggesting an infarct of AICA territory.

증례 4 :

67 / , , / (100 dB/60 dB).

12 가 (Fig. 4)  
6 40 dB

고찰

Seltzer <sup>5)</sup> 5

3 , 2 , Mark <sup>6)</sup> 12

Fitzerald <sup>8)</sup> 80 5%

가 (Fig. 3)

7  
2

(MRI)

, 28%

1 가

3DFT - CISS

가가 2 가 가

2

T1, T2 weighted image  
, 6

중심 단어 :

### REFERENCES

Yamasoba <sup>9)</sup> 57 12  
, Wanatabe <sup>10)</sup>

2 3

4 9.

5%(4/42)

Mark <sup>6)</sup>

가

3DFT - CISS

11)

결 론

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