

성인에서 발생한 고립성 4뇌실수두증

- 5례의 임상적 진단 및 치료 -

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= Abstract =

Symptomatic Isolated IV Ventricular Hydrocephalus in Adults

- Clinical Diagnosis and Management of Five Cases -

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Isolated fourth(IV) ventricle in shunted patients has been reported with increasing frequency. Symptomatic isolated IV ventricular hydrocephalus in adults, however, has seldom been described. We report five such cases among total of 420 shunted cases in our institution from January 1992 to December 1995.

The causes of initial hydrocephalus were postsurgical meningitis(SAH, teratoma and abscess of posterior fossa), tuberculous meningitis and neurocysticercosis of the IV ventricle. All cases were symptomatic with clinical findings related to posterior fossa lesions. Two patients developed symptoms in 2 months after V - P shunts and the others between 17 and 118 months after V - P shunts. These 5 patients required IV ventricular shunting. All patients improve postoperatively except one patient who developed 6th nerve palsy related to secondary irritation of the brainstem by the IV ventricular catheter.

Inflammatory changes in the ependyma of both aqueduct of Sylvius, foramina Luschka and Magendi have been regarded as the most important factors in the development of the isolation of IV ventricle, especially in adults. It is generally recommended to shunt in cases of the adult symptomatic isolated IV ventricle. Alternative surgical techniques and prevention of such complications are discussed.

KEY WORDS : Isolated IV ventricle · Postsurgical meningitis · IV ventricular shunt · Aqueduct of Sylvius · Foramen magendie · Foramen Luschka.

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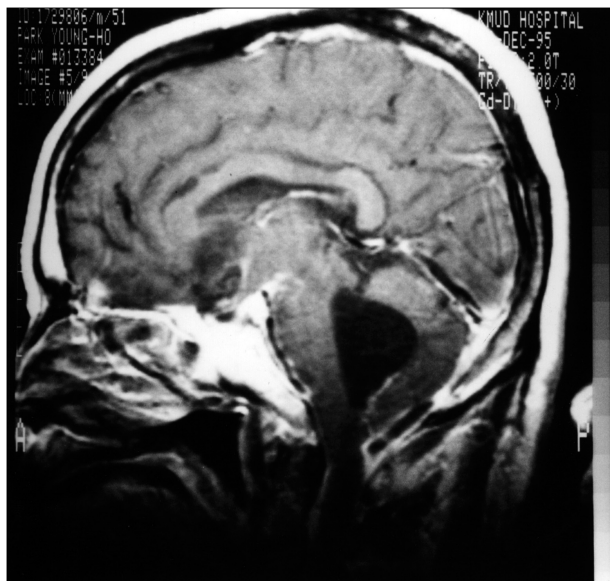


Fig. 1. Sagittal T1-weighted magnetic resonance image of a 51-year-old patient (case 5) demonstrating a marked dilatation of the IV ventricle.

Table 1. Clinical characteristics of five patients

Case No.	Age	Sex	Cause of HCP	Meningitis hx	Type of Onset
1	22	F	Teratoma	Y	Med Acute
2	42	F	PICA aneurysm	Y	Low Acute
3	32	F	Tbc.abscess	Y	Med Chronic
4	29	M	Tbc.meningitis	Y	Med Chronic
5	51	M	Neurocysticercosis	Y	Med Chronic

M : male, F : female, HCP : hydrocephalus, Tbc : tuberculosis
PICA : posterior inferior cerebellar artery, Y : yes, hx : history,
LVP : valve pressure of ventriculoperitoneal shunt of the lateral ventricle

Table 2. The characteristics of neuroimaging (n = 5)

Small or slit-like lateral ventricles	2
Very large fourth ventricle	5
Rounded or ballooned IV ventricle	5
Ventrally displaced IV ventricle	5
Loss of posterior fossa subarachnoid space	5
Hydromyelia	2

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Table 3. Surgical results of five patients with IV ventricular hydrocephalus

Case	Interval(mo)	LVP-4VP	Type of 4VP	Length(cm)	4th cath	Targeting	Complication*
1	2		Med	4.5		USG	N
2	2		Low	4		CT	malposition
3	118		Med	4		USG	N
4	72		Med	4		CT	N
5	17		Med	4.5		CT	N

4VP : ventriculoperitoneal shunt of 4th ventricle, 4th cath : catheter of 4th VP shunt, N : no, USG : ultrasonography, CT : computed tomogram *Duration of follow-up period : from 2 to 35 months

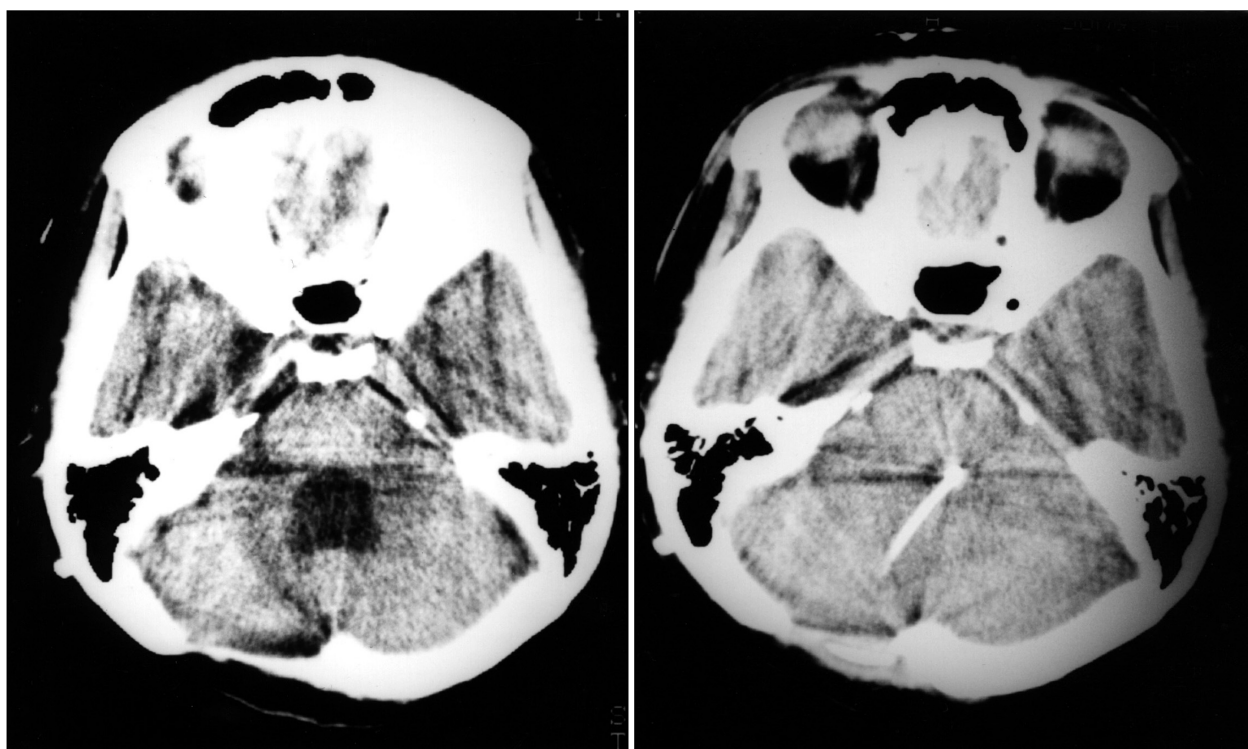


Fig. 2. Axial CT images of a 32-year-old patient(case 3) demonstrates preoperative dilatation of the IV ventricle (left) and remarkable reduction in ventricular size 3 weeks after shunting of the IV ventricle(right).

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Fig. 3. Sagittal T1-weighted magnetic resonance images showing dilatation of IV ventricle and central canal of cervical cord(left), and marked reduction of IV ventricle and hydromyelia after IV ventricular shunting(right).

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