

## **The Images of Cisterna Magna in Various Diseases on Cisternograms**

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Enlargement of the cisterna magna on cisternogram can be detected in nearly half of the normal children. The difference between normal cases and other various cases on the cisternograms is that the uptake of the RI can be no more detected after 24 and/or 48 hrs in the former. The purpose of this report is to evaluate the cisternograms in the following four conditions.

1. Arachnoid cyst. In the early phase the RI flows into the cyst and shows the characteristic pattern. But 24 and/or 48 hrs later the RI activity is cleared out from the cyst and no distinction can be made from the normal cases.
2. Dandy-Walker malformation. Most of the RI flows into the basal cistern and cisterna magna is poorly figured out. On RI-ventriculography,

RI-accumulation in the IV ventricle occurs early and remains as a semispherical uptake 24 and/or 48 hrs later.

3. Arnold-Chiari malformation. RI enters into the basal cistern but no reflux into the cisterna magna can be detected in early phase, 24–48 hrs later, however, the RI remains in the cisterna magna making a semispherical pattern.
4. Aquaductal stenosis with severe hydrocephalus. No significant difference is detectable in the early phase between this and normal case. And if shunt operation has been already done, it is quite difficult to find out the difference. 24 and/or 48 hrs later, in the cisterna magna remains spherical uptake which is also observed in the shunted case.

## **Prognostic Correlation between C.S.F. Dynamics by R.I. Cisternography and Other Examinations in Case of Subarachnoid Haemorrhage.**

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We observed the C.S.F. dynamics in 47 out of 115 cases showing spontaneous subarachnoid haemorrhage (SAH). Those were examined by R.I. cisternography.

The cases consist of intracranial aneurysm 30, AVM 7, hypertension 6, and unknown origin 4 cases.

We discussed the relation between the findings

of R.I. cisternography and E, E, G, or air study (Evan's Index, C-C angle, and bregma height).

Then we picked up fresh seven cases, and analyzed the results of follow up study of R.I. cisternography.

We observed the changes of C.S.F. dynamics after SAH in course by cisternographic pattern.

The findings of E.E.G. and air study have also changed with proceeding of clinical state.

So we concluded that the combination of these examinations is necessary to confirm the alteration of clinical state.

Then we classified the C.S.F. dynamics after SAH as follows;

In stage I, R.I. cisternogram is within normal, and E.E.G. findings is normal or with focal slow

record.

In stage II, the transient ventricular reflux within 24 hours, with abnormal findings of E.E.G. In this stage patients may develop to secondary hydrocephalus.

In IIIrd and IVth stage, the disturbance of C.S.F. dynamics is more severe, and a ventricular reflux persisted more than 48 hours, so called "ventricular stasis". In this stage, the absorption of C.S.F. is highly disturbed. The findings of E.E.G. characterized by FIRDA like or diffuse slow record, and in air study the ventricular dilatation is also seen.

According to above classification, we thought, suitable timing of shunt operation could be determined.