

Oral presentation

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## The problems of hydrocephalus and CSF shunt in the patients with myelomeningocele in their adolescence and adulthood

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### Background

Hydrocephalus with myelomeningocele (MMC) is generally considered to be a problem in their early life. Few discussions have been made about the management of hydrocephalus with MMC after adolescence. Furthermore in Japan about 20 years ago closure of myelomeningocele was sometimes performed by orthopedists or pediatric surgeons and very little concerns about hydrocephalus were paid for. Therefore the process of the management of hydrocephalus varies widely among the patients with MMC in the adulthood, some patients are left untreated or long-term malfunctioned or others are intensively followed-up. The aim of this paper is to evaluate the intellectual and social outcome between various management and to report six cases who are underwent VP shunt in the adulthood because of their symptoms due to intermittently increased intracranial pressure are revealed after long-standing so called arrested hydrocephalus.

### Materials and methods

A total of 24 (11 male and 13 females) patients with MMC associated hydrocephalus who had been followed over ten years after the initial closure are included in this study

### Results

The patients are classified into three groups. We defined the patients who are intensively followed after the initial CSF shunt and VP shunt are also functioning yet as class 1. Class 2 includes the patients whose VP shunt is not functioning and who are considered as a shunt independent and arrested hydrocephalus. The patient in Class 3 has been performed no CSF drainage but show ventricular dilatation. We evaluated intellectual outcome using Wechsler adult intelligence scale (WAIS).

### Conclusion

We conclude hydrocephalus associated MMC is not only the problem in their early life but also the life-long issue.