

MRI Cine Study In Chiari Malformation With Syringomyelia

Ch Goh¹, Kandasamy R¹, Ar Ghani¹, Z Idris¹, Jm Abdullah¹, K Yap²

¹Department Of Neurosciences/ Hospital Universiti Sains Malaysia/ Malaysia

²Department Of Neurosurgery/ Hospital Umum Sarawak/ Malaysia

Introduction

Chiari malformation is often associated with syringomyelia, up to 85% had been reported. It is a disorder of mesodermal origin with mixed neuroectodermal component.

Report

We analyse the surgical outcome of 9 cases of Chiari malformation in Hospital Universiti Sains Malaysia. Magnetic resonance imaging was utilised to diagnose the disease. All the cases were Chiari type 1 with syringomyelia. 7 cases had extensive syrinx till mid-lower thoracic level, longest length being 19 spinal levels. Surgical approach included suboccipital foramen magnum decompressive craniectomy 30mm diameter, C1 laminectomy 15mm diameter and durofascioplasty. There were 3 males and 6 females. 7 were at late adolescent age group. Majority of the cases presented with occipital cough headache or neck pain, associated with progressive limb weakness and numbness. Median symptom duration was 2 years. Postoperatively, all the headache and neck pain were resolved. 7 patients had radiological improvement, however, only 4 among those had clinical and function improvement. CINE study revealed suboptimal cerebrospinal fluid flow at foramen magnum level for those with radiological improvement but similar neurological status after surgery.

Conclusion

Syringomyelia is a disabling sequelae of Chiari malformation which can be challenging to treat. CSF dynamics study is essential in assessment of adequacy of decompression.