Introduction

Hydrocephalus is an excessive accumulation of CSF in the cerebral CSF spaces due to imbalance of its production and resorption. In the normal state, the balance between production and resorption of CSF is a constant value. Hyperproduction of CSF is seen only in secondary hydrocephalus in patients with papillomas of the choroid plexus. In the rest of cases, hydrocephalus is usually a result of impaired resorption of CSF, or may due to blockage of CSF pathways. On other hand, decrease of resorption may be a result of blockage of arachnoid villi. (Kornienko, 2009)

Post hemorrhagic and post infective hydrocephalus account for a significant proportion of hydrocephalus presenting in neonates and infants. Congenital causes include aqueductal stenosis /gliosis, Chiari II malformation and other malformation such as the Dandy – Walker malformation. Rarer causes include congenital midline tumors and vascular malformation (Gunny et al, 2008).

Using MR imaging can evaluate of the ventricular system and assessment of coexisting cortical atrophy. The presence or absence of associated white matter changes, particularly within the periventricular white matter, became the subject of intense investigation because MR imaging much improved their visualization. The effect of these white matter changes on clinical improvement after shunting has been a question of particular interest. (Aho et al, 2003).
Cine phase-contrast MR imaging has been increasingly used during the last decade for evaluating cranial and spinal CSF flow. The phase contrast technique is extremely sensitive, even to slow flow, and provides the potential for noninvasive flow quantification. The results of these measurements have yielded considerable information on the physiology of the normal CSF circulation. In addition, pathological CSF flow dynamics in communicating and obstructive hydrocephalus. (Schroeder et al, 2000)