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The newborn infant is susceptible to a wide range of neurological and respiratory disorders, both congenitally determined and acquired during antenatal, perinatal and postnatal life. Recently the improvement in neonatal care resulted in fewer respiratory deaths but neurological problems are still the limiting factor in the neonatal prognosis *(Volpe, 1981).* Longer term neurological integrity is perhaps the most important factor in determining the quality of life for the child and parents. Careful and appropriate understanding of these neurological problems will lead to the ability to treat and hopefully to prevent these disorders.

Many radiological modalities are included for evaluation of intracranial lesions in infancy. ***Barnes (1992),*** pointed out that, Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) are effective non invasive definitive technology for evaluating CNS neoplasia, vascular and hemorrhagic lesions, congenital brain malformations, hydrocephalus, and brain inflammation. MRI can assess brain myelination and white matter disorders. ***Chugani, (1992)*** stated that, Positron Emission Tomography (PET) and Single Photon Emission Computed Tomography (SPECT) are capable of detecting functional disturbances in the brain as a large number of biochemical processes occurring in the developing brain

can be imaged and quantified. These techniques are referred to as functional brain imaging.

Cranial sonography has been used since 1955 to detect shifts of the midline intracranial structures. Since the first reports of clinical application of echoencephalography in 1956, there has been much interest in the sonographic demonstration of intracranial pathology ***(Leksell, 1956).***

Dewbury and Aluwihare (1980) and Babcock et al. (1980) started to use the anterior fontanelle as an acoustic window to the brain. High quality images were obtained using the real time sector scanners. High resolution diagnostic ultrasound equipment is now readily available in the most medical centers and detailed visualization of the intracranial anatomy in the neonate is now easily possible. Moreover, pediatricians, pediatric neurosurgeons and radiologists recognize the expanding clinical need to evaluate intracranial disease in infants and how far cranial sonography can reach the accurate diagnosis.

On the other hand, ***Hagen-Ansert (1995),*** considered that, ultrasound is a competitive tool to the other anatomic imaging modalities in their pediatric neuroradiological applications. Ultrasound is most useful for demonstrating hemorrhage, ventricular size, pulsatility of the major cerebral vasculature, and

for screening of congenital brain malformations as well as intracranial infections and masses.

Wong et al. (1989) stated that, cranial Doppler sonography has a role in the non-invasive evaluation of the neonatal intracranial vessels. This techniqe can be applied readily during the standard sonographic examination and can provide quantitive and qualitative information on normal and abnormal flow pattern of intracranial vessels.

The aim of this study is to evaluate the role of cranial sonography in the diagnosis of different neurological disorders in infancy.