INTRODUCTION

Posterior cranial fossa is the deepest and the most capacious of the three cranial fossae. It contains the cerebellum, pons, and medulla oblongata. Located centrally in the posterior fossa is the foramen magnum. The posterior fossa is surrounded by deep grooves containing the transverse sinuses and sigmoid sinuses **(Kumon et al., 1998).**

Space occupying lesions of the posterior cranial fossa in the adults could be classified into tumors & infections. The tumors include intra & extra axial.

Hydrogen 1 (H) magnetic resonance (MR) spectroscopy enables non-invasive in vivo quantification of metabolic concentrations in the brain, which are most often presented as ratios e.g. (relative to creatine), rather than absolute concentration (***Jansen et al., 2006).***

Several important metabolites are evaluated in the proton MR spectra of normal brain. In long TE (135 to 288 msec) proton MR spectra include: N-acetylaspartate (NAA), Choline (CHO), Creatine/ phosphocreatine (Cr) & Lactate (Lac). When short TE (20 to 30 msec) are used, a greater number of metabolites can be identified in the MR spectra in addition to NAA, Cho, Cr and Lac, including: Glutamate (Glu), Glutamine (Gln), Gamma-amino butyric acid (GABA), Myoinositol (MI), Alanine (Ala) and Glucose (Gc) ***(De Edelenyi et al., 2000).***

Proton MRS allows reliable differentiation of tumor margin from adjacent brain parenchymal edema, which is not possible with

conventional gadolinium-enhanced MRI. Conventional MRI underestimates or overestimates tumor size in approximately 40% of cases (***Castillo and Kwock; 2002)***.

In addition, proton MRS may be used to clearly distinguish glial neoplasms from normal brain tissue, monitor the response of astrocytoma to therapy and allows detection of tumor recurrence before abnormalities can be identified on conventional MRI (***Fountas et al., 2000)***.