



The role of magnetic resonance spectroscopy in differentiation between neoplastic and non-neoplastic focal brain lesions

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ARTICLE INFO	ABSTRACT
Article type Review article Article history Received: 17 Jan 2014 Revised: 26 Jan 2014 Accepted: 28 Jan 2014 Keywords Focal brain lesions Magnetic Resonance Spectroscopy Neoplastic	The ability to differentiate between neoplastic and non-neoplastic focal brain lesions is critical for appropriate management of patient. Due to low specificity of magnetic resonance imaging (MRI) adequate data for differentiating would not be provided. Magnetic resonance spectroscopy (MRS) is one of the newly supplementary methods for determining molecular structures and better differentiation among brain lesions. The applicability of MRI plus MRS in changing the histopathology is undetermined. In order to evaluate the benefits of magnetic resonance spectroscopy combined with the conventional magnetic resonance imaging, we reviewed related literature till 2013.

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Introduction

Differentiation between tumoral and non-tumoral brain lesions is often a dilemma for physician and neurosurgeon. Primary imaging modalities cannot always provide details information about the lesion; therefore because pathology is the gold standard method for determining the nature of lesion, many patients undergone invasive

procedures (1,2).

Almost 88% of central nervous system tumors are composed of brain tumors (3). On basis of annual report of cancer state in 2011, the incidence of malignant and non-malignant individuals from 2004 to 2007 in US were 31% and 62% in adults among 213525 cases with brain tumors, which

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