DOI : 10.35124/bca.2019.19.2.4379

Biochem. Cell. Arch. Vol. 19, No. 2, pp. 4379-4383, 2019 | www.connectjournals.com/bca | *ISSN 0972-5075*

ASSESSMENT OF ZYXIN AND E-CADHERIN TUMOUR MARKER IN IRAQI PATIENTS WITH GLIOMA LESION OF THE BRAIN

Hazima Mossa Alabassi

College of Education for Pure Sciences, Ibn-Al Haitham, University of Baghdad, Iraq.
e-mail: hazema_mosa@yahoo.com

(Received 24 February 2019, Revised 17 May 2019, Accepted 11 June 2019)

ABSTRACT : The central nervous system tumors in Iraq is consider the sixth most common tumors in adult and the second most common in child. The study included twenty six (26) cases of intracranial glioma of both gender with age range from (11 months-65 years) and all groups from Baghdad city. Formation fixed paraffin embedded (FFPE) brain excisional biopsies of retrieved from archival material of pathology laboratories of Neurosurgical hospital in Baghdad (Al-Shaeid, Ghazi, Al-Hareri Teaming hospital). Immunohistochemicaltechnique was used to detect the expression of two adhesion molecules Zyxin and E-cadherin. Distribution among age group revealed that the mean age of cases in this study was 29-93 and the median was 30 years immunohistochemical study revealed that the expression of Zyxin was expressed in 11 cases (42.3%) from all glioma cases. According to the result of the present study, we may conclude that the increasing level of Zyxin in GBM may enhance the migration of tumor cell and as a consequence increase the aggressiveness of the tumor in addition the possibility to use Zyxin as tumor marker.

Key words : Zyxin, E-cadherin, glioma.

INTRODUCTION

Gliomas are tumour of the brain parenchyma that are classified histologically on the basis of their resemblance to different types of glial cells. The major types of glial tumours are astrocytoma, oligodendroglioma, and ependymomas. The highly infiltrative or "diffuse gliomas" are the most common type (Kumar *et al*, 2013).

The gliomas as account for almost 80% of primary malignant brain tumour, so they considered the most common primary malignant brain tumour, in adults they can occur anywhere in the central nervous system (CNS) but primarily occur in the brain and arise in the glial tissue (Ostrom *et al*, 2014).

The annual incidence of CNS tumours range from 10 to 17 per 100.000 persons for intraspinal tumours, about half to three quarters are primary tumours and the rest are metastatic (Kumar *et al*, 2013). In Iraq, the CNS tumours are the sixth most common tumours in adults and the second most common in childhood (Iraqi Cancer Registry, 2012).

Meningiomas are predominantly, benign tumours that arise from arachnoidmeningiothelial cells. They usually occur in adults and are often attached to the Dura (Kumar *et al*, 2013).

Although most meningioma is easily separable from underlying brain, some tumours infiltration the brain a feature that is associated with an increased risk of recurrence (Internet, 2014).

For many tissue extracellular matrix ECM essential for the functioning of many tissues in human. At the cell levels, all cells activities such as migration, proliferation and death regulate by cell adhesion molecules.

The main feature of tumor cell the perturbed adhesion to ECM such a way that control of normal cell function is lost, this attachment is important for signal transduction from outside of cell to inside it then stimulate many activities including cell cycle progression and the cell that separate from ECM will die via apoptotic (Programmed cell death). The attachment of cell to ECM is mediated by a group of transmembrane glycoproteins that aggregate into a complex structure, which known as local adhesion (Kotb *et al*, 2018).

Zyxin is a protein (LIM domain) located to the nucleus, focal adhesion, cell-cell contact as well as a long the actin stressfiber that anchor distinct actin polymerization activity independent of the Arp 2/3 complex (Wagner *et al*, 2008). It as a proline rich domain, which may interact with slt3 domain of protein that have arole in signalling pathway (Ozkanca *et al*, 2016). Since it can shuttle between nucleus and cytoplasm so it can play a role in transcription (Grunewald *et al*, 2006; Hervey *et al*, 2006).