SUMMARY AND CONCLUSION

The posterior cranial fossa has unique diagnostic challenges, the area is small but it merits specific consideration as it contains important structures as well as vital centers.

Magnetic resonance spectroscopic imaging is a non-invasive technique that demonstrates almost in a perfect fashion the nature of the lesion with results nearly compete with sterotactic biopsy.

The aim of the present study is to evaluate the role of MRS in diagnosis of posterior fossa space occupying lesions regarding the accurate characterization of these lesions to differentiate them from other similar lesions that are confused with them in other imaging modalities.

Posterior fossa space occupying lesions are classified into two main groups:

The first group "Intra- axial neoplasms" **includes brain stem glioma, cerebellar astrocytoma, ependymoma, medulloblastoma, metastases, haemangioblastoma and lymphoma.**

The second group "Extra- axial neoplasms" **includes meningioma, acoustic neuroma, chordoma, mal developmental tumors such as epidermoid cysts.**

The main principle of MRS depends on the chemical shift mechanism to detect certain metabolites levels that collectively help to differentiate neoplastic lesions from each others & inflammatory types

from malignant lesions. These metabolites include NAA, Cho, Cr, Myo & Lac.

The level of each metabolite rises or decreases in every lesion with certain way that helps nearly to characterize this lesion.

There are two MRS techniques: single voxel & multiple voxel, both have its own advantages & disadvantages.

This study included an example of each type of the posterior fossa space occupying lesions including an MR imaging (pre & post contrast) & the corresponding MR spectroscopic curve of different metabolite levels.

Although not merely conclusive, the role of MRS in the diagnosis of different posterior fossa space occupying lesions has nowadays becoming an important playmaker for the radiologist to make an accurate diagnosis.