ROLE OF MRI IN DIAGNOSIS OF BRAIN STEM TUMOURS

Essay

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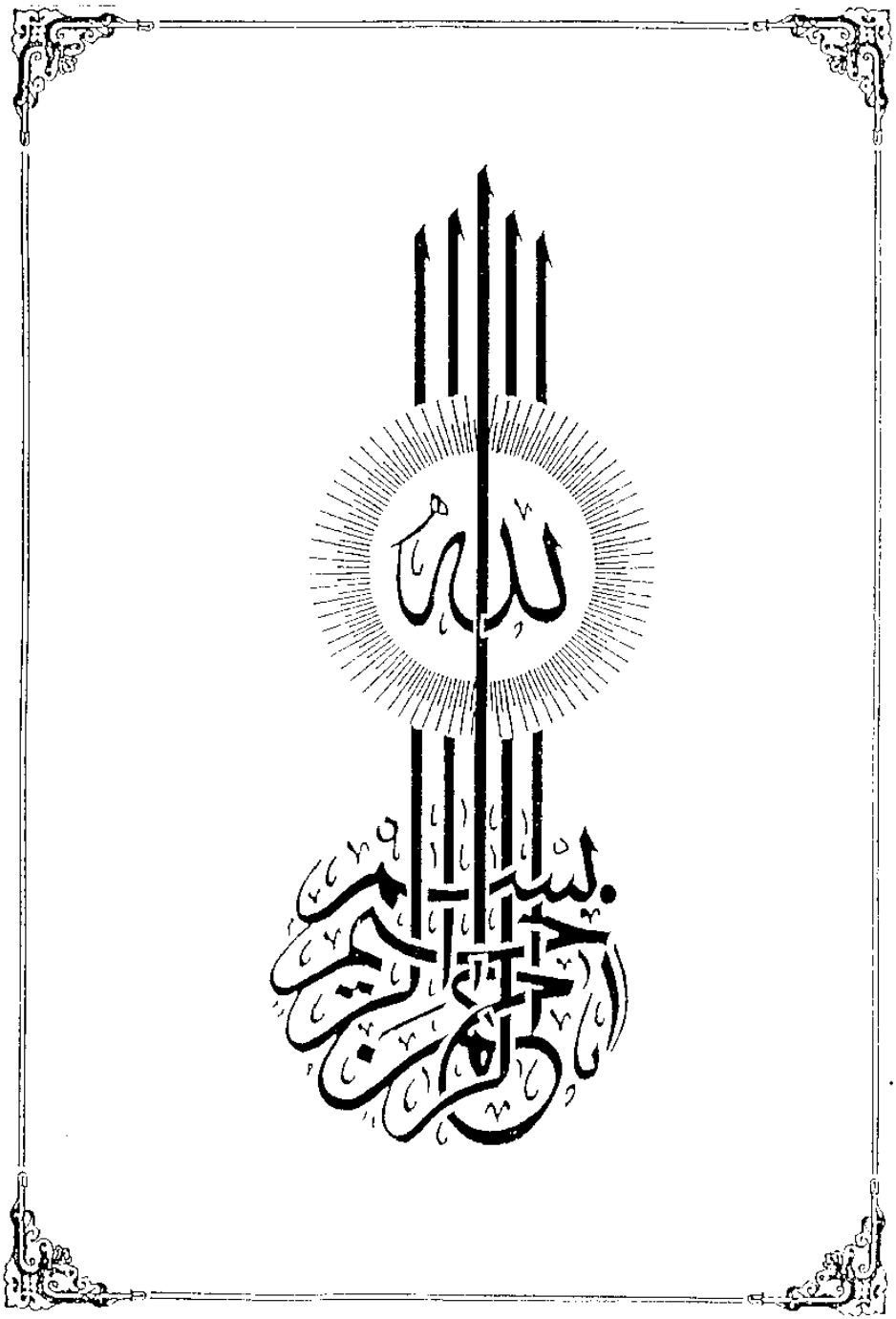

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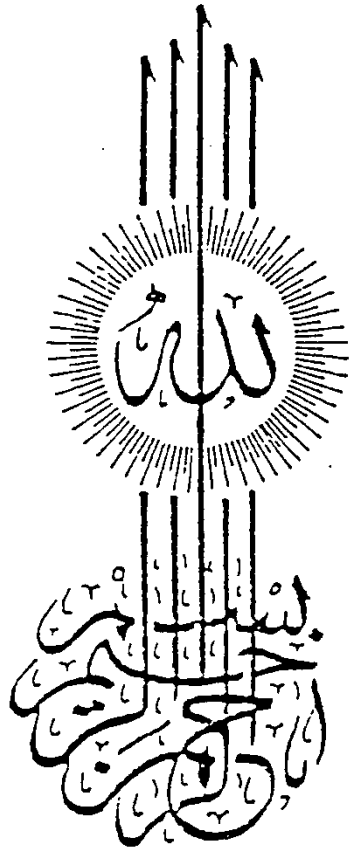

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وكان فضل الله عليك عظيما ﴾

صدق الله العظيم [النساء ١١٣]

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First and fore most, thanks are for **Allah**, the most beneficent unlimited and continuos blest on me.

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INTRODUCTION AND AIM OF THE WORK

MRI is considered a major step in the field of medical imaging, because of its unique features of exceptionally high soft tissue ontrast resolution and its multiplaner capability. *(Edelman et al., 1990).*

MRI plays an important and prominent role in the diagnosis of brain stem tumours, an area which constituted a continous diagnostic difficulty by other imaging modalities, due to the surrounding dense bony parts, *(Edelman et al., 1990).*

The aim of this study is to show and emphasize the value of MRI in the diagnosis of brain stem tumours.

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Gross anatomy of the brain stem

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ANATOMY OF THE BRAIN STEM

The brain stem is the part of the brain connecting the cerebral hemispheres with the spinalcord and consists of the mid brain, pons and medulla oblongata which extends to CI vertebra passing through the foramen magnum *(Cast, 1990)* Fig: [1-A] & [1-B] .

THE MID BRAIN

The part of the brainstem that lies between the cerebral hemispheres and the pons . It consists of right and left halves, each half forms a cerebral peduncle, made up of a ventral part "basis pedunculi" and a dorsal part the "tegmentum", running through the tegmentum is the acqueduct of Sylvius joining the third and fourth ventricles.

External appearance:

Ventrally:

It consists of the crura of two cerebral peduncles, which lie in v-shaped manner cranial to the pons.

Dorsally:

It shows four eminences, the superior and inferior colliculi or the "corpora quadregemina", the superior lie below the pineal body, the inferior are more prominent than the superior.

Internal structures:

The 4th ventricle has no dorsal nervous tissue, being roofed in by ependyma & pia matter only, but the midbrain then is closed in around a central canal which is the acqueduct of Sylvius, that conveys C.S.F. from the 3rd to the 4th ventricle. Dorsal to the canal, is the tectum containing the four colliculi & ventrally is the cerebral peduncle which is cut by a transverse pigmented gray matter band known as the substantia nigra, demarcating it from the

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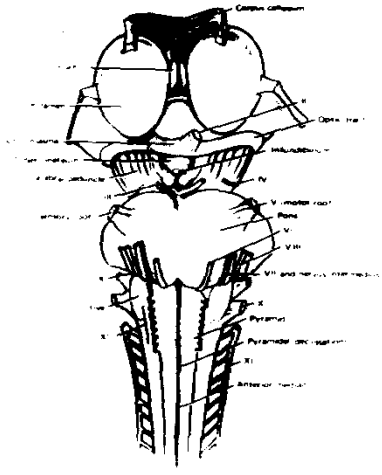

Fig.1-a : Ventral view of the brain stem.

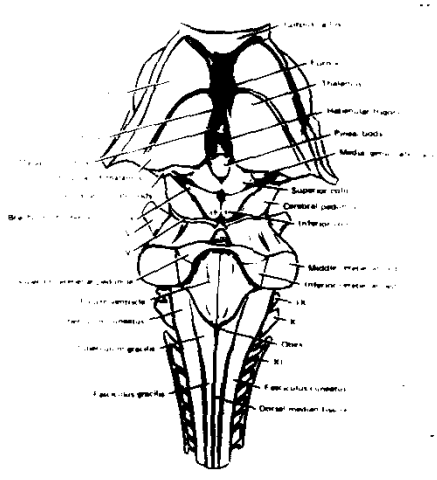

Fig.1-b : Dorsal view of the brain stem.
(Quoted from Hiatt & Gartner, 1982)

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