



The Role of Diffusion Tensor Imaging and Functional Brain MRI in the Preoperative Assessment of Primary Brain Tumors

Essay

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَقَدْ عَلِمْنَا

صَدَقَ اللَّهُ الْعَظِيمُ

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Table of Contents

	Page
Abbreviations	I
List of Tables	III
List of Figures.....	IV
Introduction.....	1
Aim of Work.....	5
Review of Literature.....	7-125
Chapter 1: Functional Brain Anatomy of White Matter Tracts and Cortical Functional Areas	7
Chapter 2: Pathology of Brain Tumors.....	50
Chapter 3: Physics and Technique	90
Illustrative Cases	115
Discussion.....	126
Summary and Conclusion	138
References	142
الملخص العربي.....	أ

Abbreviations

2 D	Two dimensional
3D	Three dimensional
A CPP	Atypical choroid plexus papilloma
ADC	Apparent diffusion coefficient
ATRT	Atypical teratoid rhabdoid tumor
AVM	Arterio venous malformation
BA	Brodmann's area
BOLD	Blood oxygen level dependent
CC	Corpus callosum
CNS	Central nervous system
CSF	Cerebrospinal fluid
CST	Corticospinal tract
CT	Computed tomography
D	Diffusion tensor
Dav	The average diffusion constant
DCS	Direct cortical stimulation
DNET	Dysembryoblastic neuroepithelial tumor
DTG	Deterministic tractography
DTI	Diffusion tensor tractography
DTI	Diffusion Tensor tractography
DW	Diffusion weighted
DWI	Diffusion weighted image
EPI	Echoplanar imaging
EPs	Ependymoma
F MRI	Functional magnetic resonance imaging
FA	Fractional anisotropy
FACT	Fiber assignment by continuous tracking
FLAIR	Fluid attenuation inversion recovery
GBM	Glioblastoma multiforme
ICP	Inferior cerebellar peduncle
IFOF	Inferior fronto occipital fasciculus
ILF	Inferior longitudinal fasciculus

Abbreviations

LGIA	Low grade infiltrative astrocytoma
MCP	Middle cerebellar peduncle
MD	Mean diffusivity
ML	Medial lemniscus
MR	Magnetic resonance
ODs	Oligodendrogliomas
PA	Pilocytic astrocytoma
PCNSL	Primary Central nervous system lymphoma
PE	Principle eigenvector
PM	Premotor cortex
PMC	Primary motor cortex
PNET	Primitive neuroectodermal tumor
PTG	Probabilistic tractography
ROI	Region of interest
SCP	Superior cerebellar peduncle
SFOF	Superior fronto occipital fasciculus
SLF	Superior longitudinal fasciculus
SMA	Supplementary motor area
SNR	Signal to noise ratio
SS EPI	Single shot Echoplanar imaging
T	Tesla
TG	Tractography
WHO	World health organization
WI	Weighted image
λ_1, λ_2 and λ_3	Eigen values and Eigen vectors

List of Tables

Table No.	Description	Page
Table 1	The Thalamic Peduncles	26
Table 2	Summary of Fiber Tracts	41
Table 3	Classification of Intracranial Tumours	54
Table 4	Intraventricular lesions	54
Table 5	Overview of Commonly Used Functional MR Imaging Paradigms in Clinical Practice	112

List of Figures

Figure No.	Description	Page
Figure 1	Illustraton shows the anatomical relationship between several white matter tracts in the coronal plane	9
Figure 2	Cingulum, sagittal view, illustration, gross dissection and directional map	11
Figure 3	Cingulum, axial directional map	11
Figure 4	Three dimensional reconstructions for the SLF-1, SLF-2 and ILF	13
Figure 5	DTI map coronal view, Normal appearance of the SLF	13
Figure 6	Illustraton and gross dissection sagittal view, SOFF	14
Figure 7	Illustraton shows the anatomical relationship between several white matter tracts in the coronal plane and its corresponding Directional map	15
Figure 8	Axial directional map, Inferior occipitofrontal fasciculus and inferior longitudinal fasciculus	16
Figure 9	DTI colour-coded maps and 3 D reconstruction of the inferior longitudinal fasciculus, SLF and uncinate fasciculus	18
Figure 10	Virtual reconstruction of the uncinate fasiculus	19
Figure 11	Illustration of the extreme capsule (blue) in human coronal section.	20
Figure 12	Virtual construction of the arcuate fasiculus	21

List of Figures

Figure 13	Corona radiata and SFOF. Coronal (A), axial (B) T2W MR images and C, Axial plane DT color map.	22
Figure 14	Illustration (A) and gross dissection, medial view (B), Directional map(C) and Tractogram (D) showing different portions of the corona radiata	23
Figure 15	Internal capsule. Axial anatomic section, T2W MRI and DTI color map	25
Figure 16	Transverse gross dissection, 3D tractography images showing the anterior thalamic radiation	27
Figure 17	Transverse gross dissection, 3D tractography images showing the superior thalamic radiation	27
Figure 18	Illustration and Coronal directional map of the Corticospinal fibers and Tractogram of the Optic radiation	28
Figure 19	Optic tracts, axial anatomic specimen, T1W MR and DTI	30
Figure 20	Optic Vradiation and Meyer's ansa: 3D tractography	31
Figure 21	Fornices and forniceal commissure: axial T2 WI and DT color map	32
Figure 22	Virtual reconstruction of the fornix	33
Figure 23	Corpus callosum. A, Mid sagittal T1W MR image, axial DTI color maps	35
Figure 24	Virtual reconstruction of the corpus callosum	36
Figure 25	Anterior commissure: axial T2 W MR and DT color map	37
Figure 26	Anterior commissure: axial T1 W MR and DT color map	38

List of Figures

Figure 27	DT color maps axial images: middle cerebellar peduncle. inferior cerebellar peduncle and decusation of the superior cerebellar peduncle	40
Figure 28	Overlapping maps in the left finger-tapping paradigm	44
Figure 29	Illustration of the lateral view of the left hemisphere showing the premotor cortex BA 6 and motor cortex BA 4.	45
Figure 30	Illustration of the medial sagittal view of the right hemisphere, showing the SMA	46
Figure 31	Broca's motor area	47
Figure 32	Temporal lobe, Wernick's area	48
Figure 33	Pilocytic asdtrocytoma: Axial T2 WI and and TI WI post contrast	56
Figure 34	Low grade infiltrative astrocytoma, Axial FLAIR image and axial postcontrast T1WI	57
Figure 35	Brainstem Low grade infiltrative astrocytoma, axial T2WI and DWI	57
Figure 36	Glioblastoma multiforme, axial FLAIR images, T1WI images and the post-contrast T1WI	59
Figure 37	Left occipital GBM, axial T2WI, sagittal FLAIR images and axial postcontrast T1WI	60
Figure 38	Anaplastic OD, Contrast-enhanced CT	61
Figure 39	OD grade II, axial T2WI and postcontrast axial T1WI	62
Figure 40	Ependymoma, axial T2WI , DWI and postcontrast T1WI	64
Figure 41	Subependymoma, axial FLAIR and contrast T1-weighted	65

List of Figures

Figure 42	Choroid plexus papilloma. Coronal T1W post gadolinium MRI	66
Figure 43	Gliomatosis cerebri. Axial FLAIR, T2-weighted and contrast T1-weighted	68
Figure 44	Ganglioglioma. Axial T2WI and post-contrast T1WI	69
Figure 45	Dysembryoplastic neuroepithelial tumour, axial T2WI and a sagittal T1WI	70
Figure 46	Central neurocytoma. Axial T2- and contrast T1-weighted images	71
Figure 47	Pineoblastoma. Axial, sagittal T2-weighted and enhanced sagittal T1-weighted MRI	72
Figure 48	Medulloblastoma. Sagittal gadolinium-enhanced T1W, T2W axial images	73
Figure 49	Atypical teratoid rhabdoid tumor. Axial FLAIR, T2-weighted, and contrast axial T1-WI	74
Figure 50	Vestibular schwannoma. Thin-section T2W CISS imaging and post-contrast T1WI	75
Figure 51	Meningioma with typical imaging signs. Sagittal T2WI and coronal FLAIR images and axial postcontrast T1WI	77
Figure 52	Primary cerebral lymphoma. CT before and after IV contrast medium	78
Figure 53	Pineal germ cell tumour. Contrast enhanced axial T1WI and axial T2*WI	79
Figure 54	Colloid cyst. Coronal FLAIR image and post-contrast T1WI.	80
Figure 55	Pituitary microadenoma. Pre and Post-contrast T1WI	82
Figure 56	Craniopharyngioma. CT scan, sagittal reconstruction, T1WI, T2WI and Postcontrast T1WI	83
Figure 57	Brain metastases. Axial T2WI and postcontrast T1WI	84

List of Figures

Figure 58	Atypical choroid plexus papilloma. Enhanced T1 weighted axial images and axial T2 WI	85
Figure 59	Atypical choroid plexus papilloma. Sagittal T1 post contrast image	85
Figure 60	Papillary glioneuronal tumor. Sagittal T1WI and axial T2WI	86
Figure 61	Papillary glioneuronal tumor. Axial T2* image and postcontrast axial T1WI	86
Figure 62	Pilomyxoid variant of pilocytic astrocytoma. Axial T2WI and axial T1 post contrast image	87
Figure 63	Papillary tumor of the pineal region. Axial T2WI, Sagittal postcontrast T1WI	87
Figure 64	Pineal parenchymal tumor of intermediate differentiation. Axial T2WI and axial T1WI post contrast	88
Figure 65	Two different cases of extensively nodular meduloblastoma are illustrated. Coronal T1 postcontrast image	88
Figure 66	Spindle cell oncocytoma of the adenohypophysis. Sagittal T1 post contrast Image and Coronal T1 post contrast	89
Figure 67	Line diagram demonstrating the concept of isotropic diffusion	91
Figure 68	Diagram showing the myelin sheath surrounding the axons, the axonal membrane, and the microtubules and neurofilaments are all longitudinally oriented structures	93
Figure 69	The diffusion tensor ellipsoid	94
Figure 70	Map indicates the regions of interest interrogated for the fractional anisotropy index in a 9-year-old girl	96

List of Figures

Figure 71	The anisotropy map shows increased FA in areas where the water diffusion is restricted and a color map in the right panel shows the directions of the diffusion in x, y and z space	97
Figure 72	Schematic illustration showing the 3 key steps required to perform tractography	99
Figure 73	Connection of fiber tracts at the voxel level	101
Figure 74	Typical equipment for visual stimulation	107
Figure 75	Illustration showing: block design, slow event related designs and rapid event related designs	109
Figure 76	BOLD activation maps imported into a neuronavigation system. Hand motor activation and Language activation	110
Figure 77	Schematic illustrates the verbal fluency–verb generation paradigm	111
Figure 78	Case 1: MRI Brain: T1 WI, T2 WI, FLAIR, DWI and ADC of 20 years old male	117
Figure 79	Case 1: Functional MRI for language	118
Figure 80	Case 1: Functional MRI for memory	119
Figure 81	Case 1: Diffusion tensor imaging showed various implication of tumoral edema particularly on the uncinate fasciculus	119
Figure 82	Case 1: DTI color map showing also the anterior most fibers of the left inferior longitudinal fasciculus are infiltrated by the mass	120
Figure 83	Case 2: Multiplanar reconstruction of left hand activation map fused with T2 FLAIR images localizes the right PMC that was infiltrated by the mass.	121

List of Figures

Figure 84	Case 2: Coronal reconstruction of DTI, FA-weighted, color directional maps delineates the infiltration by the tumor of the fibers of the corticospinal tract (CST).	122
Figure 85	Case 3: Postprocessed DTI, Fractional Anisotropy (FA)-weighted color directional maps and BOLD activation maps were created and fused. Imaging findings show critical motor activation at the posterior margins of the lesion and involvement by the tumor of the corticospinal tract.	124
Figure 86	Case 3: Coronal T1 contrast enhanced images acquired after surgery visualize the surgical approach taken by the neurosurgeon to remove the lesion in order to minimize the risk of postoperative neurological deficits.	125
Figure 87	Potential patterns of WM fiber tract alteration by cerebral neoplasms. The extent to which these patterns can be discriminated on the basis of DTI is under investigation.	128
Figure 88	(A-F) Tract displacement: Pre-operative T2W axial image (A) shows a heterogeneous mass in the right posterior frontal lobe. 3D tractography image (B) shows posterior displacement of the corticospinal tract. The magnified FA image (C) and corresponding directionally encoded color map (D) show how the ROIs (seed) were placed in the region of the corticospinal tracts (B). Post-operative tractography images (E, F) show relocation of the posteriorly displaced corticospinal fibers.	129
Figure 89	(A, B) Tracts traversing through edema. DTI in a patient with a large right frontal lobe mass lesion (glioblastoma multiforme).	130

List of Figures

Figure 90	Figure 90: (A-C) Complete tract disruption. A T2W axial image (A) shows a focal mass lesion (glioblastoma multiforme) in the left corona radiata and basal ganglia. Directionally encoded color map shows distortion and altered color in the posterior limb of the left internal capsule (arrow). 3D tractography shows cut-off of the left corticospinal fibers (arrow), consistent with infiltration.	130
Figure 91	Areas of activation for the verbal fluency–verb generation paradigm in a left-handed 42- year-old man with a right hemispheric temporal lobe lesion who presented with headache and speech disorders	134
Figure 92	Presurgical fMRI in a patient with right parietal glioblastoma. Areas of activation are superimposed on axial postcontrast T1WI. Activation foci corresponding to the hand (red) are displaced anteriorly.	135