



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل

***Role of Fluid Attenuated Inversion Recovery
(FLAIR) MR Imaging in the Detection and
Assessment of Cerebrovascular Strokes and
Demyelinating Diseases***

Essay

***Submitted in partial fulfillment of Master
Degree in Radiodiagnosis***

By

Basant Farouk Abdel Azim
M.B., B.CH.

Under Supervision of

Prof. Dr. Khaled Mohammed Talaat
Professor of Radiodiagnosis
Faculty of Medicine
Ain Shams University

Dr. Sohair Abdel Atti Ahmed
Lecturer of Radiodiagnosis
Faculty of Medicine
Ain Shams University

Faculty of Medicine
Ain Shams University

2002

B 0197

ر.د.ع. فاضل محمد

مستشار

م.م.م.م.م.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ﴾

صدق الله العظيم

سورة البقرة / الآية { ٣٢ }

Acknowledgement

Thanks first and last to God as we owe him for his great care, support and guidance in every step in our life.

I would like to express my sincere gratitude to Prof. Dr. Khaled Mohammed Talaat, Professor of Radiodiagnosis, Faculty of Medicine, Ain Shams University, who devoted much of his precious time, kind guidance and meticulous supervision.

Many thanks are due to Dr. Sohair Abdel Atti Ahmed, Lecturer of Radiodiagnosis, Faculty of Medicine, Ain Shams University, for her willing assistance and guidance throughout the steps of this work.

Special thanks to all my Professors and Colleagues in the Department of Radiodiagnosis, Ain, Shams University.

None of this could have been possible without the loving support of a very special family and all my efforts are dedicated to them.

Basant Farouk Abdel Azim

Contents

	<u>Page</u>
• Introduction and Aim of the Work	1
• Brain MRI Anatomy	2-16
• Normal Myelination of the Pediatric Brain	17-22
• Pathology and Clinical Picture	
A- Cerebrovascular Strokes	23-33
B- Demyelinating Diseases	34-44
• Physical Aspects and Technique of Examination	45-54
• Manifestations	
A- Cerebrovascular Strokes	55-82
B- Demyelinating Diseases	83-100
• Summary and Conclusion	101-102
• References	103-119
• Arabic Summary	--

List of Figures

<u>Fig No.</u>		<u>Page</u>
1- 10	Normal Anatomy in Axial FLAIR images	2-10
11 - 15	Normal Anatomy in Coronal FLAIR images	11-13
16 - 18	Normal Anatomy in Sagittal FLAIR images	15-16
19	Normal Myelination	22
20	Simple Inversion Recovery Sequence	48
21	Changes in Magnetization with time in IR sequence	49
22	Magnetization for Brain and CSF during FLAIR Sequence	51
23	FLAIR image showing Infarction in comparison with CT and T2 weighted images	56
24	FLAIR image showing Infarction in comparison with T2 weighted images	57
25 - 27	Cortical Infarction showed by FLAIR in comparison with different MR sequences	58-59
28	Chronic Infarction showed by FLAIR in comparison with different MR sequences	60
29-30	FLAIR images showing Arterial hyperintensity in Hyperacute infarction	61-63
31	Venous Infarction	66
32-33	Intraparenchymal Hemorrhage in CT and different MRI sequences	69-71
34-35	Acute SAH (comparison between FLAIR and CT)	72-73

List of Figures (Cont.)

<u>Fig No.</u>		<u>Page</u>
36	Chronic SAH	74
37	T1 and T2 relaxation curves in SAH	75
38-39	Subarachnoid space diseases	78
40	ICH, SAH, and IVH in CT and different MRI sequences	80
41	Subacute IVH and ICH	81
42	Subacute aneurysmal IVH and SAH	82
43	Ovoid lesion in MS (sagittal FLAIR image)	84
44	Periventricular and Subcortical MS Plaques	85
45	Subcallosal Striations	86
46	Gray matter bridges	88
47	Ependymitis Granularis	89
48	Small vessel ischemic disease	89
49	FLAIR showing Juxtacortical lesions	91
50	FLAIR showing hypointense MS lesions	92
51	Dilated perivascular Spaces	94
52	Acute Disseminated Encephalomyelitis	97
53	Progressive Multifocal Lencephalopathy	99