

姜树学 马述盛 主编

断面解剖与

*MRI
CT
ECT*

对照图谱

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ATLAS OF SECTIONAL ANATOMY CORRELATED
WITH MRI CT AND ECT

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对照图谱

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姜树学 1939 年生于吉林省农安县, 1958 年考入中国医科大学医疗系, 1963 年毕业留校任教。现为系统解剖学和断面解剖学教授, 政府特殊津贴获得者。数十年来潜心钻研解剖学的教学和科研。1996 年断面解剖学教学, 获辽宁省教学成果二等奖。1985 年“侧胸皮瓣的研究”获卫生部科技成果乙级奖。1982 年“前臂皮瓣的研究”获辽宁省重大科技成果一等奖, 1988 年该项研究又获得国家发明三等奖。并参加编写了《显微外科解剖学》、《外科解剖学》及《皮瓣和肌皮瓣显微外科解剖学》等著作。1988 年被授予“辽宁省有突出贡献专家”的称号。

Jiang Shuxue, born in Nongan County, Jilin Province in 1939, admitted to the China Medical University in 1958 and became a teacher of the university after graduation in 1963. Now, he is a professor of systemic anatomy and sectional anatomy in China Medical University, and he is one of the winners of the government special allowance. For several decades, he has been working in the research and teaching of anatomy.

In 1996, he was rewarded the second prize of Liaoning Province teaching achievement for his "Sectional anatomic teaching". In 1985, he was rewarded for the second prize of scientific and technologic achievement of Health Ministry for his "Research of lateral thoracic skin flap". In 1982, he was rewarded the first prize of important scientific research of Liaoning Province for his "Research of forearm skin flap". In 1988, he was rewarded the third prize of national invention for his "Research work of forearm skin flap". Professor Jiang participated in compiling the books of "Microsurgical Anatomy", "Surgical Anatomy", "Microsurgical Anatomy of Skin Flap and Musculocutaneous flap". Professor Jiang Shuxue was conferred on the title of "Specialist having prominent contribution of Liaoning Province" in 1988.

前言

随着医学检测手段的迅速发展, B 型超声、CT 已得到普及, MRI 与 ECT 设备相继出现于市级医院。传统的投影成像(X 线成像), 已变成二维或三维的断面成像, 如 CT、MRI 和超声成像。与此同时, 医学影像工作者的队伍逐年扩大, 各科医生都在积极学习和运用医学影像知识为患者服务。读 CT、MRI 片必须以断面解剖学知识为基础, 然而过去没有断面解剖学的教育, 临床工作的医生大都缺乏这方面的知识。为了满足临床医务工作者的诊断和医学院校影像教学的急需, 我们编写了这本《断面解剖与 MRI CT ECT 对照图谱》, 为读者提供了宝贵的图像资料。

本书精选出 180 幅断面解剖图、337 幅 MRI 图、105 幅 CT 图、40 幅 ECT 图和 3 幅 MRA 图。每两页为一单元, 一页为彩色断面解剖图、ECT 图及定位图。另一页为 CT 及 MRI 图。每一单元图都处于同一断面上, 切线相同, 结构相同, 便于读者学习和应用。本图谱不仅对从事医学影像的学者是一本不可缺少的读物, 而且对其它各科临床医生阅读 CT、MRI 图像也是极有价值的参考书。断面解剖标本是用健康国人尸体冰冻切片制成的。胸、腹、盆部的横断面(水平断面)及头颈部、膝关节的断面等层厚为 1cm; 胸、腹、盆部的冠状断面及矢状断面层厚为 2cm。CT、MRI 及 ECT 等各种影像图都是用健康国人扫描制成的。

CT 图是用第四代 CT 机扫描、激光照像制成。头颈部与胸部用平扫图像; 腹部与盆部用增强扫描图像。

MRI 图像(T_1WI 、 T_2WI 及 PDWI) 是用 1.5T、2.0T 磁共振仪、自旋回波(SE)序列采集的。

名词以全国自然科学名词审定委员会 1991 年公布的人体解剖学名词为准, 中英文对照。

本图谱是断面解剖学与医学影像学相结合的产物, 经过几年的努力终于和读者见面了, 我们感到欣慰。本书在编著过程中得到王淀教授、曹郁琦教授等人的帮助, 特此表示衷心的感谢。

尽管诸位编者尽心尽力, 精益求精, 但是仍有不足之处, 敬请各位读者指正。

姜树学 马述盛
1997 年 9 月于沈阳

PREFACE

With the rapid development of modern sophisticated imaging modalities, the conventional projection imaging as radiography is now changed to sectional imaging such as B – mode US, CT and MRI. Now, in China most of hospitals are equipped with such imaging modalities. Doctors and technicians in the department of Radiology and physicians in other departments are interested in studying the fundamental knowledge of human sectional anatomy. However, in the past few medical school offered the course of sectional anatomy so that most of the radiologists and clinical physicians are not familiar with this. To meet the urgent need for the clinical medical workers and training of students, we compiled this book "Atlas of Sectional Anatomy Correlated with the MRI, CT and ECT" with hope that it would be easier for them to learn.

One hundred and eighty illustrations of sectional anatomy together with corresponding 337 MR images, 105 CT images and 40 ECT pictures were carefully chosen for the atlas. Each unit is composed of two pages, one shows the colored illustration of sectional anatomy and ECT image as well as a locator of section, while another page depicts the CT and MR images of the corresponding section. This atlas is not only indispensable for radiologists but also essential to all clinical physicians in interpreting CT and MR imaging.

All the anatomic sections were made from normal Chinese cadavers with frozen section method. The thickness of horizontal section for the thorax, abdomen, pelvis and the thickness of sections for head and neck, knee joint were 1.0 cm, and the thickness of frontal and sagittal sections was 2.0 cm for the thorax, abdomen and pelvis. The CT, MRI and ECT images were obtained from scanning normal Chinese volunteers.

All CT examinations were performed with PQ – 2000 (Picker International, Cleveland, Ohio, U. S. A.) and laser printer. The images of head and neck, chest were non – enhanced, while the images of abdomen and pelvis were enhanced. The slice thickness was 1.0 cm.

MR images including T₁ weighted, T₂ weighted and proton density images were performed on 1.5T scanner (Signa, GE Medical Systems, Milwaukee, Wis., U. S. A.) and 2.0 T scanner (Prestige, Elscint Ltd. Israel) with spin echo (SE) sequence. The slice thickness was 1.0 cm.

Terms are used according to the Human Anatomic Terms published in 1991 by the National Examination and Approval Committee on Natural Scientific Terminology with corresponding English terms.

After several years, the authors appreciated very much that this book was eventually compiled and published. We hope that the readers will find this book interesting and helpful.

We would like to express our thanks to Prof. Wang Dian and Prof. Cao Yuqi, whose assistance and co – operation made this publication possible.

Shenyang September, 1997

Jiang Shuxue

Ma Shusheng

使用说明

一、本图谱分头颈部、胸部、腹部、盆部和四肢等五个部分。每两页为一单元，一页为彩色断面解剖图、ECT 图及定位图。定位图的白色线为断面的切线，蓝色线为基准线。另一页为黑白的 CT 图、MRI T₁ 加权图、MRI T₂ 加权图及该单元的中英文名词。每一单元的所有图像都处于同一断面上。

二、参考平面

1. 头颈部水平断面的参考平面为眶下缘至外耳门的平面。

2. 头颈部额状断面的参考平面为垂直于眼耳平面的断面。

3. 头颈部矢状断面的参考平面为正中矢状断面。

4. 胸腹盆及四肢水平断面的参考平面为经过胸骨角或脐的水平断面。

5. 胸腹盆及膝关节的矢状断面的参考平面为躯干和膝关节的正中矢状面。

6. 胸腹盆及膝关节的额状断面的参考平面为经过腋中线和膝关节的侧中线的额状面。

三、英文名词缩写：

Fig. Figure	H Horizontal
C Cephalo - cervical	S Sagittal
F Frontal	T Thoracic Vertebrae
L Lumbar Vertebrae	S Sacral Vertebrae
CO Coccyx	A Abdomen
P Pelvis	K Knee
UL Upper Limb	LL Lower Limb
PD Proton Density	f female
m male	a. artery
v. vein	n. nerve

INSTRUCTIONS

1. There are five regions in this atlas including head and neck, thorax, abdomen, pelvis and limbs. Every unit is composed of two pages. One page shows a colored sectional anatomic picture, ECT image and a locator of sections in which the white line represents cutting plane, and the blue line represents basic plane. Another page shows CT and MRI (T₁WI and T₂WI) images with Chinese – English anatomical terms of this section. Pictures and images of one unit are all at the same plane.

2. The plane of reference

a. The plane of reference for horizontal sections of head and neck is at the eye – ear plane (Frankfurt horizontal, orbito – meatal line)

b. The plane of reference for frontal sections of head and neck is the plane perpendicular to the eye – ear plane (Frankfurt horizontal, orbitomeatal line)

c. The plane of reference for sagittal sections of head and neck is median sagittal plane.

d. The plane of reference for horizontal sections of thorax, abdomen, pelvis and limbs is the horizontal plane passing through sternal angle or umbilicus.

e. The plane of reference for sagittal sections of thorax, abdomen, pelvis or knee joint is the median sagittal plane of trunk or knee joint.

f. The plane of reference for frontal sections of thorax, abdomen, pelvis or knee joint is the plane passing through midaxillary line or lateral median line of knee joint.

3. Abbreviations

Fig. Figure	H Horizontal
C Cephalo – cervical	S Sagittal
F Frontal	T Thoracic Vertebrae
L Lumbar Vertebrae	S Sacral Vertebrae
CO Coccyx	A Abdomen
P Pelvis	K Knee
UL Upper Limb	LL Lower Limb
PD Proton Density	f female
m male	a. artery
v. vein	n. nerve

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HEAD AND NECK

头颈部

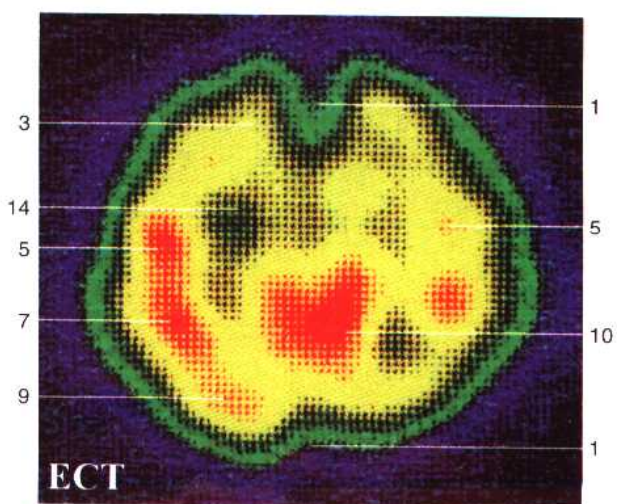
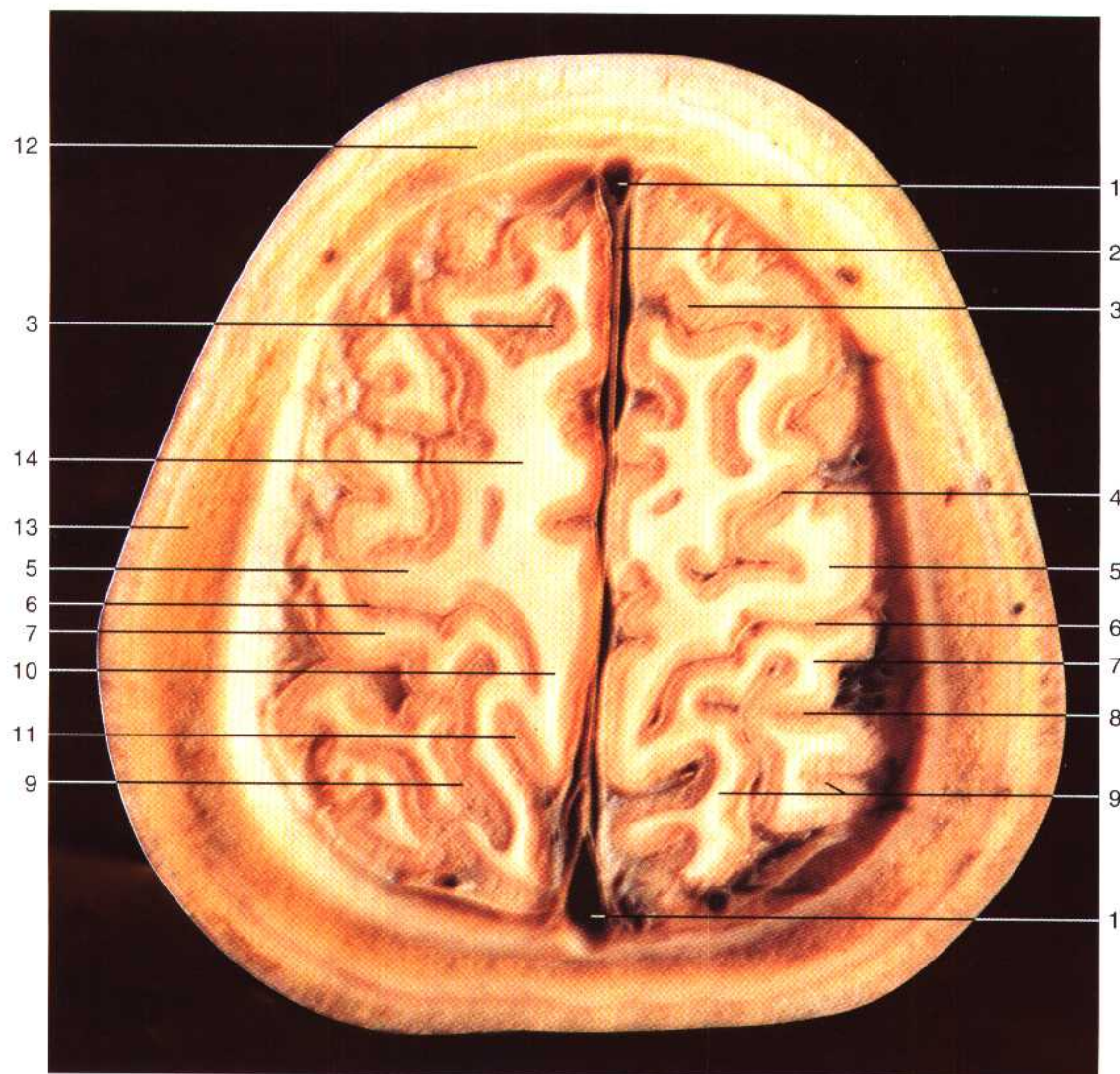
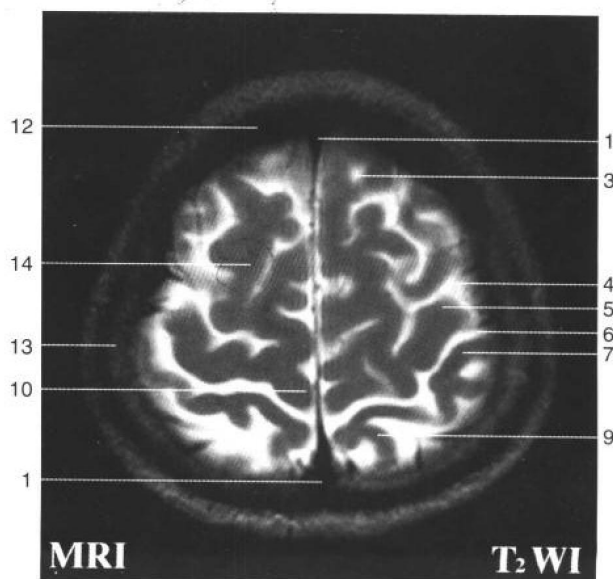
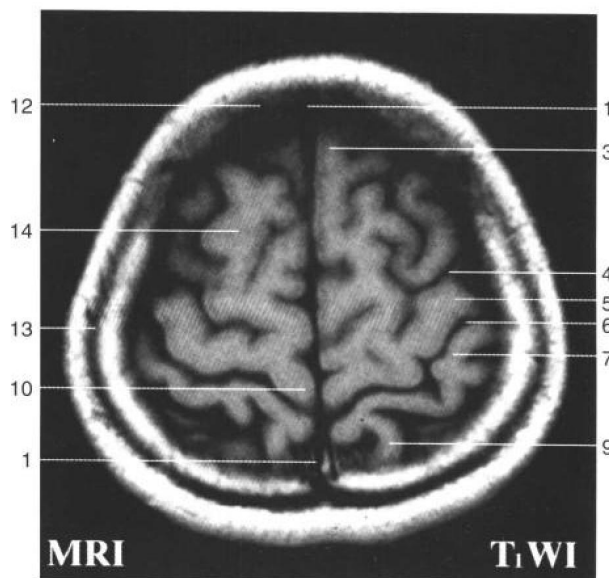
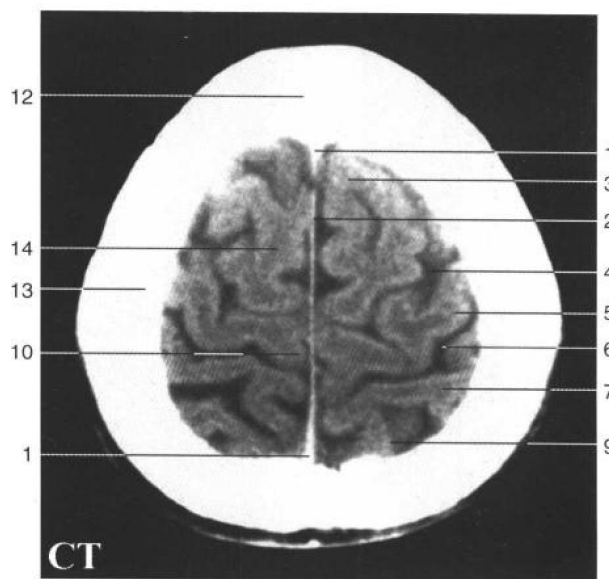


Fig. HC 1

Fig. HC 1

1. 上矢状窦 superior sagittal sinus
2. 大脑镰 cerebral falx
3. 额上回 superior frontal gyrus
4. 中央前沟 precentral sulcus
5. 中央前回 precentral gyrus
6. 中央沟 central sulcus
7. 中央后回 postcentral gyrus
8. 中央后沟 postcentral sulcus
9. 顶上小叶 superior parietal lobule
10. 中央旁小叶 paracentral lobule
11. 扣带沟缘支 marginal ramus of cingulate sulcus
12. 额骨 frontal bone
13. 顶骨 parietal bone
14. 辐射冠 corona radiata



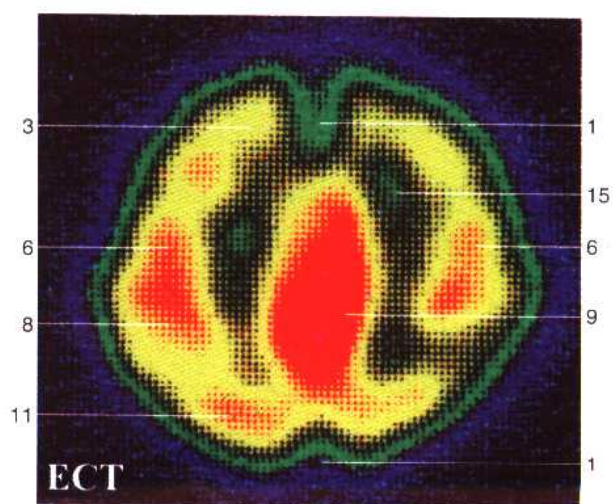
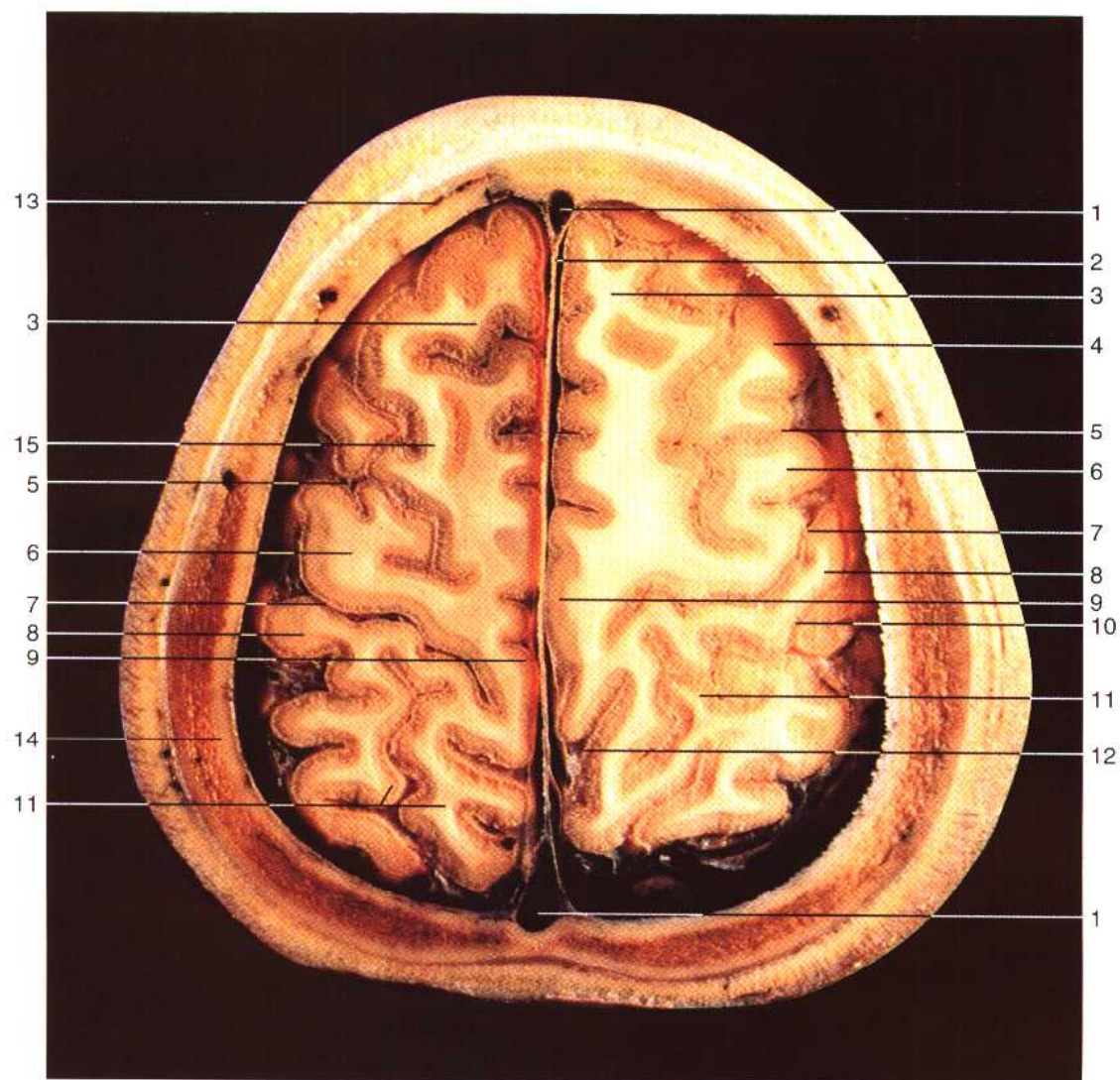
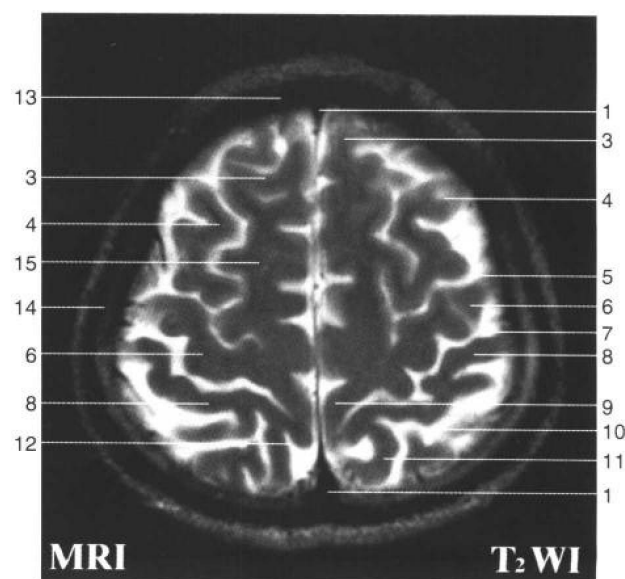
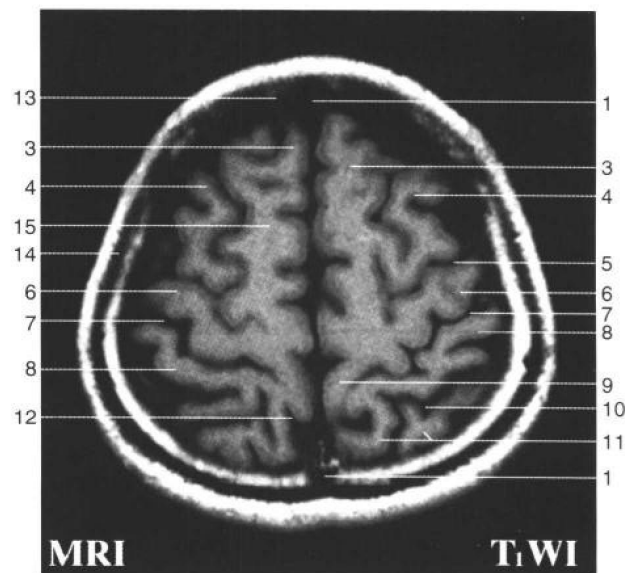
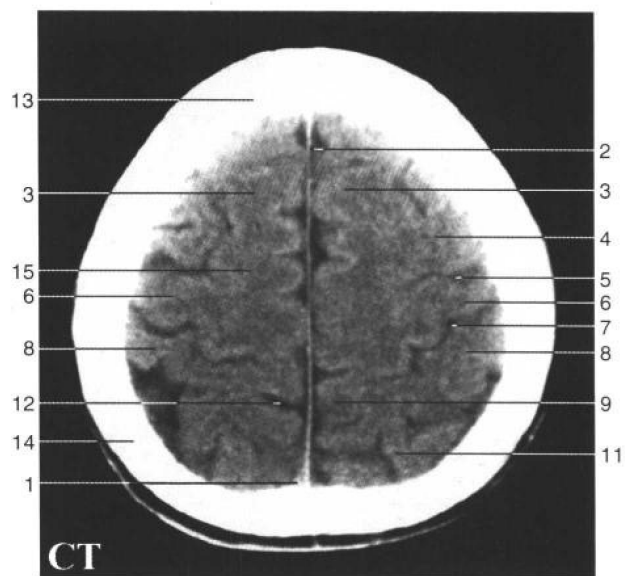


Fig. HC 2

Fig. HC 2

1. 上矢状窦 superior sagittal sinus
2. 大脑镰 cerebral falx
3. 额上回 superior frontal gyrus
4. 额中回 middle frontal gyrus
5. 中央前沟 precentral sulcus
6. 中央前回 precentral gyrus
7. 中央沟 central sulcus
8. 中央后回 postcentral gyrus
9. 中央旁小叶 paracentral lobule
10. 中央后沟 postcentral sulcus
11. 顶上小叶 superior parietal lobule
12. 扣带沟缘支 marginal ramus of cingulate sulcus
13. 额骨 frontal bone
14. 顶骨 parietal bone
15. 辐射冠 corona radiata



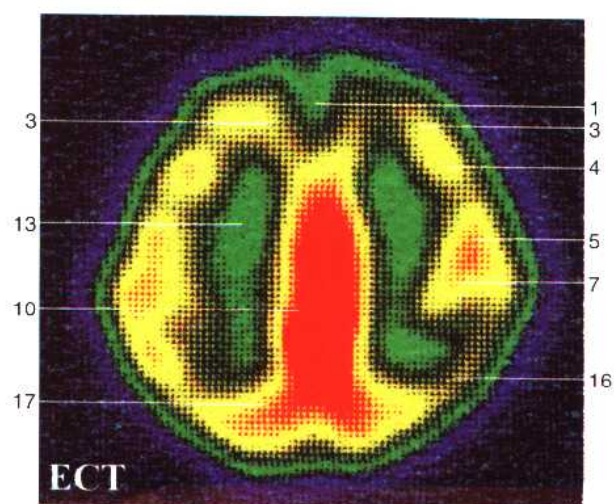
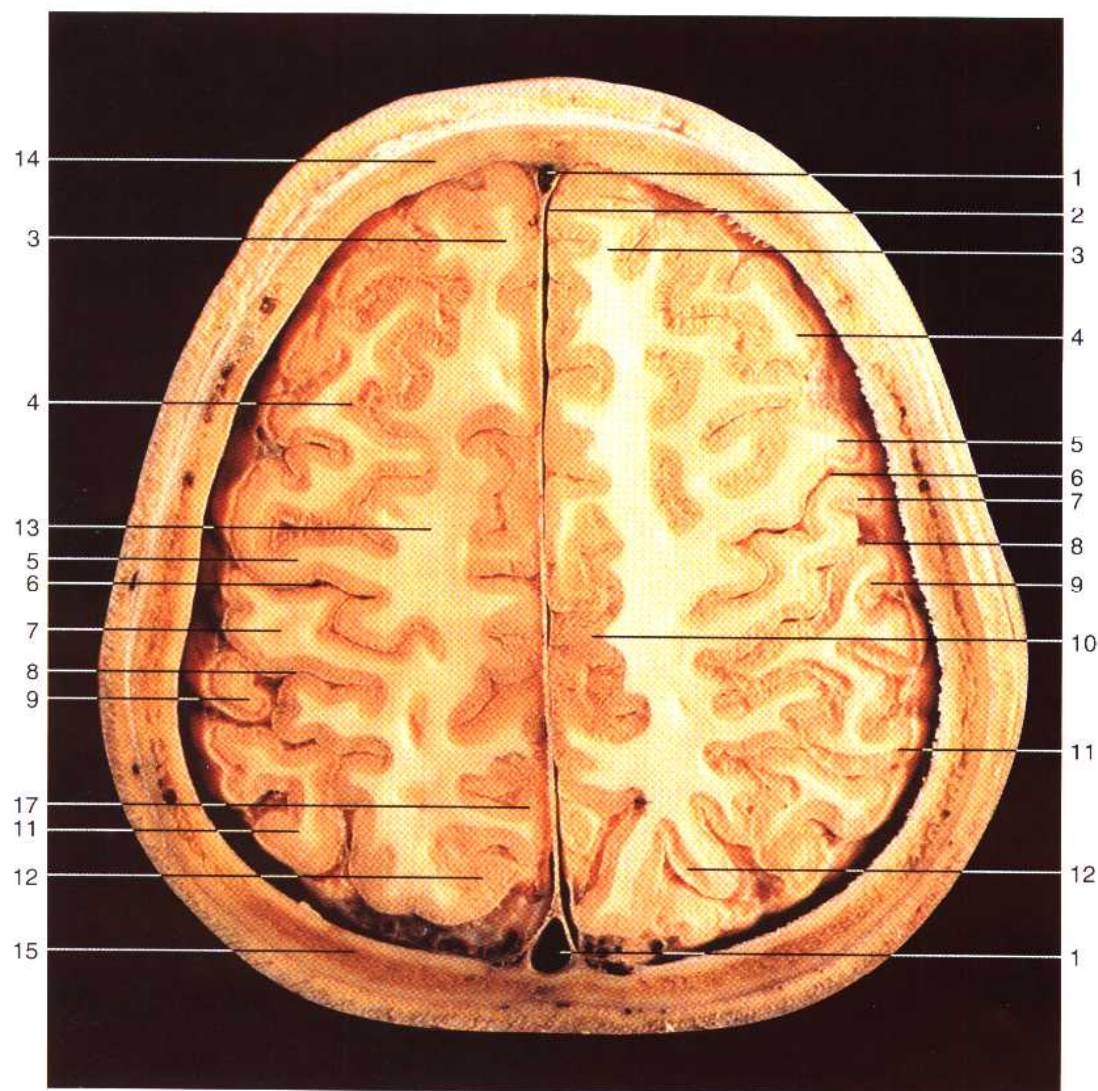


Fig. HC 3