病 理 学

Case Files™

Pathology

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中文主编　李甘地　来茂德

人民卫生出版社

全国高等学校临床医学专业卫生部规划教材英文版

案例分析系列

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出 版 说 明

为贯彻教育部、卫生部关于加强双语教学的精神，配合全国各医学院校开展双语教学的需要以及适应以问题为中心的教学发展趋势，人民卫生出版社特引进了本套案例分析系列英文教材。该教材原版由美国麦格劳希尔教育出版集团出版，在美国各大医学院使用后反响良好。

书中通过剖析临床实例对相关的临床或基础知识进行回顾和复习，有助于医学生将医学基础知识和临床实践相结合。这种以问题为中心的学习(PBL)模式强调发挥学生主动思考的潜力，培养其自我学习能力。在编排上，作者有意将案例顺序随机化，目的是模拟真正的患者就医情景。为方便查询，书后附有以字母为序的案例排列索引。

加入中文编注后的案例分析系列基本保持原书风貌，并根据我国国内教学情况对重要知识点和词汇进行了点评和加注。本套教材语言叙述通俗、简练，既可加强读者对医学知识的理解，又可学习医学英语。

本系列首批教材包括 12 本：临床医学 6 本(内科学、外科学、妇产科学、儿科学、精神病学、急诊医学)，基础医学 6 本(解剖学、生理学、生物化学、微生物学、病理学、药理学)，将于 2007 年全部推出。

前　　言

　　全国高等学校临床医学专业卫生部规划教材英文版的案例分析系列之病理学的原版是美国麦格劳希尔教育出版集团出版的，专门为美国医科生复习病理学和参加美国医师执照考试（USMLE Stepl）使用的。与国内传统的病理学病例分析比较，有以下特点：第一，以病例为出发点，通过典型病例，复习有关的基础和临床知识，然后通过数道试题对有关知识加以测试和巩固，并且给出答案和解释；第二，病例的难度不大，学生比较容易得出最可能的诊断；第三，重点在分析对某种或某类疾病的诊断途径，或诊断思路，而不是要求学生回答大量的形态学改变；第四，医学英语简练易懂。这些特点对于医学生学习和整理病理学知识，训练临床思维和鉴别诊断能力，以及提高医学专业英语水平均有很大的帮助。

　　这本书适用于临床医学专业八年制和七年制等长学制学生和教师作为双语教学的补充教材使用。也可作为 PBL 教学的教材。还可用于研究生、五年制临床医学学生。作为医学英语读本也是一个不错的选择。

　　本书部分词汇的中文注释和点评是由国内几家著名大学医学院病理学专家完成的，他们丰富的教学经验和良好的英语是本书中文部分成功的关键。由于时间较为紧迫，因此书中的错误难以避免，希望在再版时加以纠正。

李甘地　来茂德
2007 年 7 月

❖ INTRODUCTION

Often, the medical student will cringe at the "drudgery" of the basic science courses and see little connection between a field such as pathology and clinical problems. Clinicians, however, often wish they knew more about the basic sciences, because it is through the science that we can begin to understand the complexities of the human body and thus have rational methods of diagnosis and treatment.

Mastering the knowledge in a discipline such as pathology is a formidable task. It is even more difficult to retain this information and to recall it when the clinical setting is encountered. To accomplish this synthesis, pathology is optimally taught in the context of medical situations, and this is reinforced later during the clinical rotations. The gulf between the basic sciences and the patient arena is wide. Perhaps one way to bridge this gulf is with carefully constructed clinical cases that ask basic science-oriented questions. In an attempt to achieve this goal, we have designed a collection of patient cases to teach pathology-related points. More important, the explanations for these cases emphasize the underlying mechanisms and relate the clinical setting to the basic science data. We explore the principles rather than emphasize rote memorization.

This book is organized for versatility: to allow the student "in a rush" to go quickly through the scenarios and check the corresponding answers and to provide more detailed information for the student who wants thought-provoking explanations. The answers are arranged from simple to complex: a summary of the pertinent points, the bare answers, a clinical correlation, an approach to the pathology topic, a comprehension test at the end for reinforcement or emphasis, and a list of references for further reading. The clinical cases are arranged by system to better reflect the organization within the basic science. Finally, to encourage thinking about mechanisms and relationships, we intentionally did not primarily use a multiple-choice format at the beginning of each case. Nevertheless, several multiple-choice questions are included at the end of each scenario to reinforce concepts or introduce related topics.

HOW TO GET THE MOST OUT OF THIS BOOK

Each case is designed to introduce a clinically related issue and includes openended questions usually asking a basic science question, but at times, to break up the monotony, there will be a clinical question. The answers are organized into four different parts:

PART I

1. **Summary**
2. A **straightforward answer** is given for each open-ended question
3. **Clinical Correlation**—A discussion of the relevant points relating the basic science to the clinical manifestations, and perhaps introducing the student to issues such as diagnosis and treatment

PART II

An **approach to the basic science concept** consisting of three parts:

1. **Objectives**—A listing of the two to four main principles that are critical for understanding the underlying pathology to answer the question and relate to the clinical situation
2. **Definitions of basic terminology**
3. **Discussion of topic**

PART III

Comprehension Questions—Each case includes several multiple-choice questions that reinforce the material or introduce new and related concepts. Questions about the material not found in the text are explained in the answers.

PART IV

Pathology Pearls—A listing of several important points, many clinically relevant reiterated as a summation of the text and to allow for easy review, such as before an examination.
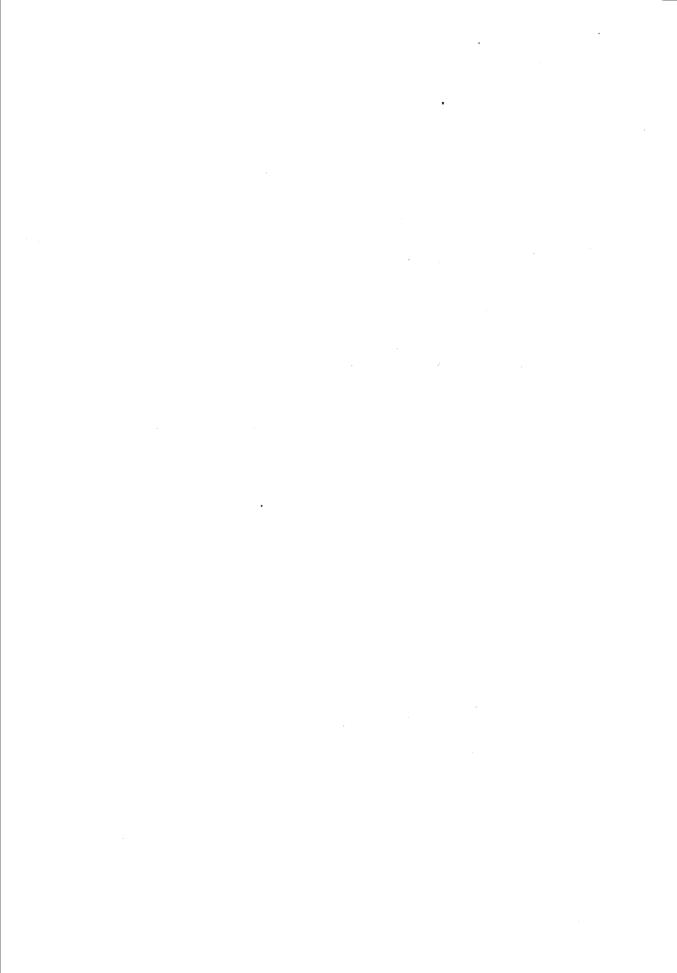
❖ CONTENTS

Applying the Basic Sciences to Clinical Medicine

PART 1. APPROACH TO LEARNING PATHOLOGY

Pathology is best learned by a systematic approach, first by learning the **language** of the discipline and then by understanding the **function** of the various processes. Increasingly, the understanding of cell and organ function plays an important role in the understanding of disease processes and the treatment of disease. Initially, some of the "language" must be memorized in the same way that the alphabet must be learned by rote; however, the appreciation of the way the "pathology words" are constructed requires an understanding of mechanisms, in essence, an awareness of "how things are put together and work together."

PART 2. APPROACH TO DISEASE

Physicians usually approach clinical situations by taking a history (asking questions), performing a physical examination, obtaining selected laboratory and imaging tests, and then formulating a diagnosis. The conglomeration[①] of the history, physical examination, and laboratory tests is called the **clinical database**. After a diagnosis has been reached, a treatment plan usually is initiated, and the patient is followed for a clinical response. Rational understanding of disease and plans for treatment are best acquired by learning about the normal human processes on a basic science level, and likewise, being aware of how disease alters the normal physiologic processes is understood on a basic science level. In short, clinical problem solving involves three basic steps: (1) making a diagnosis, (2) initiating a therapy, and (3) monitoring the patient's response.

PART 3. APPROACH TO READING

There are **seven key questions** that help to stimulate the application of basic science information to the clinical setting.

1. **Given histologic findings in an organ, what are the most likely clinical manifestations?**
2. **Given clinical symptoms, if a tissue biopsy is taken, what histologic findings are most likely to be seen?**
3. **Given clinical findings, if the microscopic photograph is shown, what is the most likely diagnosis?**
4. **Given a histologic description, what would be the most likely complication to the organ in question?**
5. **Given a gross description of a pathologic lesion, what is the most likely diagnosis?**

6. **Given autopsy findings, what is the most likely diagnosis?**

7. **Given histologic findings, what is the most likely explanation?**

1. **Given histologic findings in an organ, what are the most likely clinical manifestations?**

   This is a fundamental principle in the understanding of the discipline of pathology. The student first must understand the **normal** histologic structure in an organ in the context of its function. Then the student must be able to relate the **abnormal** histology to clinical findings, both subjective (patient complaints) and objective (physical examination findings). The organ or system is highly organized both on the gross and on the microscopic level. There also must be awareness of the mechanism that causes disruption of the normal cellular architecture.

2. **Given clinical symptoms, if a tissue biopsy is taken, what histologic findings are most likely to be seen?**

   This is the converse of the first question and requires going backward from clinical manifestations to the probable disease process to probable histologic findings. The student must be able to translate the clinical picture to the cellular characteristics. This also requires being aware of what symptoms various cellular alterations will produce in the patient; for instance, some changes will be silent and not cause symptoms, whereas other changes will produce dramatic manifestations.

3. **Given clinical findings, if the microscopic pictograph[2] is shown, what is the most likely diagnosis?**

   This sequence of analysis is very similar to the practice of "real-life" medicine, the role of the pathologist. The clinical history and physical examination are critical to putting the pathologic findings into context. For instance, if endometrial curettings[3] are sent to the pathologist and on microscopy reveal crowded, complex glands, abnormal epithelial nuclei, and loss of nuclear polarity, the pathologist may render a diagnosis of cancer. However, when the information is given that the patient is 6 weeks pregnant, the diagnosis of an Arias-Stella reaction[4] is made, an expected finding in the endometrium in light of the human chorionic gonadotropin[5] levels of pregnancy. The next logical step is to propose a treatment. Thus, the student should be able to shift back and forth between the basic science and the clinical areas:

   Pathophysiology↔Histologic Findings↔Diagnoisis↔Treatment

4. **Given a histologic description, what would be the most likely complication to the organ in question?**

   This analysis requires that the student be able to relate the histologic findings of

one organ to a disease process and then extrapolate[6] the probable changes to another organ. The student should become proficient at working back and forth between histologic changes and clinical findings and disease processes. The best way to acquire this skill is to think in terms of mechanisms of disease and not just memorize key words. It is the understanding of the underlying pathophysiology of the disease that allows the physician-scientist to make rational predictions of the natural history of a disease process.

5. **Given a gross description of a pathologic lesion, what is the most likely diagnosis?**

The student of pathology also must be able to process the visual picture of the organ, biopsy specimen, or cytology, as well as the written description. Because the pathologist often communicates with clinicians by using written reports, the student should be able to take the written description and apply that information to the clinical setting, such as making a diagnosis. For instance, if the description is that of an ovarian cyst with sebaceous[7] material, hair, and teeth, the most likely diagnosis is a benign cystic teratoma.

6. **Given autopsy findings, what is the most likely diagnosis?**

This question is similar to the analysis performed by working back from gross pathologic description to the diagnosis. In cases of a patient's death, an autopsy often will be helpful in explaining the circumstances surrounding the death, or the etiology. The student of pathology must be able to correlate the postmortem examination with the probable diagnosis and be able to speculate about the interaction between disease and host. For example, the case may involve a 30-year-old female who suddenly collapses and dies, and the autopsy reveals a dilated aortic root and aortic dissection; other findings include long extremities and long fingers. The most likely diagnosis is Marfan syndrome[8].

7. **Given histologic findings, what is the most likely explanation?**

The student once again is challenged to relate the histologic findings in the context of scientific explanation and not just memorize the histologic findings of a certain disease. For example, the histologic specimen may reveal a pulmonary lesion with an area of central necrosis surrounded by epitheliod and multinucleated giant cells. The explanation would be that the organism is probably *Mycobacterium tuberculae*, which evades phagocytosis from macrophages because it has complement C3b antigen on its cell wall. It is incorporated into the macrophage, and the tuberculosis bacterium blocks fusion of the lysosome with the phagosome, allowing the bacterium to multiply within the macrophage. The responding T cells produce cytokines such as interferon type II (IF-2) to activate other T cells and interferon

gamma (IFN-gamma), which activates macrophages, transforming them into epitheloid cells and multinucleated giant cells. Thus, it is delayed or cell-mediated immunity that is required to address the infection. The monocyte response, dictated by the type IV hypersensitivity reaction of cell-mediated immunity, leads to the caseous necrosis (acellular debris in the center), as well as the granulomatous reaction. The cell-mediated immune response also explains the need to wait 48 to 72 hours for a skin response to the purified protein derivative (PPD) test to assess for prior exposure (sensitivity) to tuberculosis.
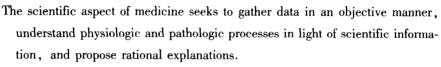
PATHOLOGY PEARLS

❖ There are seven key questions to stimulate the application of basic science information to the clinical arena.

❖ Medicine is both an art and a science.

❖ The scientific aspect of medicine seeks to gather data in an objective manner, understand physiologic and pathologic processes in light of scientific information, and propose rational explanations.

❖ A skilled clinician must be able to translate back and forth between the basic sciences and the clinical sciences.

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词汇

1. conglomeration[聚集作用]
2. pictograph[象形文字,古代石壁画]
3. endometrial curetting[宫内膜刮出物]
4. Arias-Stella reaction[妊娠时宫内膜和宫颈腺体中由于激素作用而出现的腺体细胞核增大,深染,细胞呈鞋钉样突入腺腔的组织学改变]
5. human chorionic gonadotropin(hCG)[人绒毛膜促性腺激素]
6. extrapolate[推断]
7. sebaceous[皮脂的]
8. Marfan syndrome[马方综合征,常染色体显性遗传的结缔组织疾病。主要表现为升主动脉的动脉瘤、骨骼肌肉系统异常,如高身材、四肢细长、脊柱侧突,眼晶体半脱位和高胱氨酸尿等]

点评

该部分对病理学的学习方法，尤其是结合病例的学习方法（也是考试中常用的方式）给以介绍。尤其值得推荐的是 seven key questions，总结了 7 种临床常用的和实际考试中应用的题型，值得同学们借鉴。

SECTION II

Clinical Cases