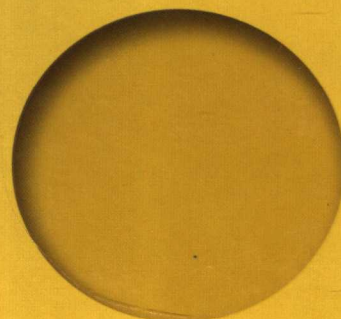
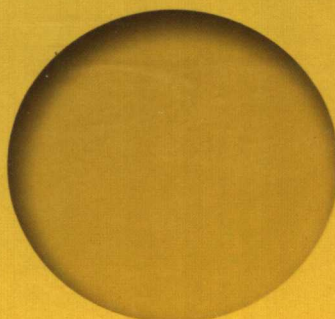
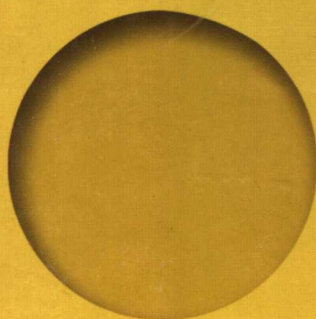
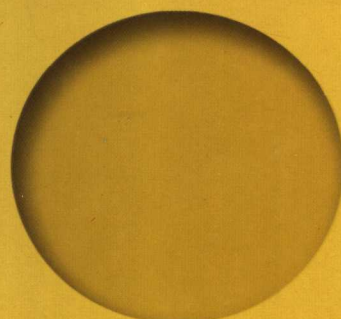
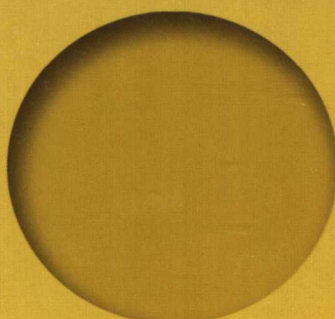
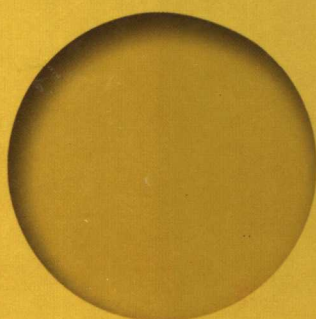
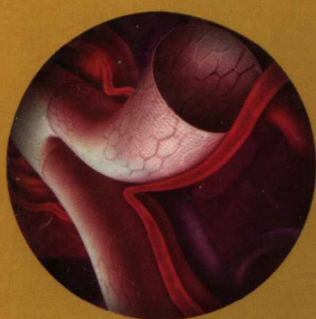


隋鸿锦 高连君 于胜波 张树龙 主编

# 介入治疗解剖学图谱

# Heart 心脏

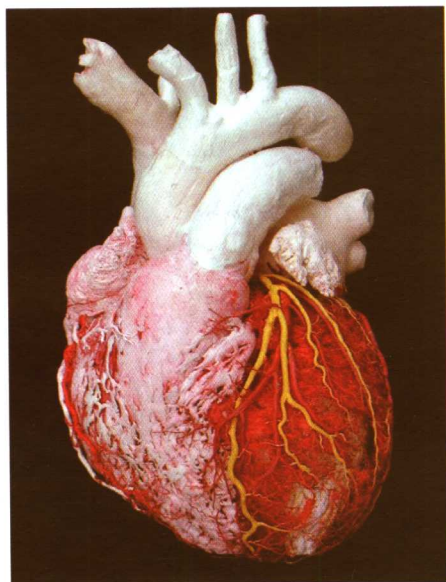


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# 介入治疗解剖学图谱

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# 丛书前言

人体解剖学是一门古老的形态科学，是重要的医学基础学科。人体解剖学通过提供人体形态资料来为临床的诊断和治疗服务。随着现代科学技术的不断发展，各种新兴的临床诊治方法和手段不断涌现，同时也提出了更多的人体解剖学新课题。

介入治疗学是20世纪70年代开始发展起来的一门医学影像学 and 临床治疗学相结合的新兴边缘学科，它是在X线、B超或CT指导下，将特制的导管经人体的自然管道送到病变部位，进行血管再通、血管栓塞、血管成形、药物灌注等以达到临床治疗的目的。介入治疗的医生已能把导管或其他器械介入到人体几乎所有的血管分支和其他管腔结构（消化道、胆道、气管、鼻管等）以及某些特定部位，对许多疾病实施局限性治疗。因介入治疗具有微创、安全、操作简单、疗效好、见效快及可重复性等诸多优点，因此成为与内科和外科治疗并列的第三大治疗手段之一。由于其近十几年的迅速发展，对许多以往临床上认为不治或难治之症，均开辟了新的有效的治疗途径。目前，介入治疗已成为现代医院临床治疗的主要手段之一，呈现出提高与普及同步发展的可喜局面，并将成为21世纪最有发展前途的临床医学专科之一。

目前，在国内专为配合临床介入治疗的解剖学图谱还尚未见到，由于相关的解剖学知识的不足，限制了一些单位开展介入治疗技术。因此，大连医科大学的一批年轻学者勇敢地承担起这一艰巨的任务，编写了这部《介入治疗解剖学图谱》，其中包括心血管系统、神经系统、消化呼吸系统、泌尿生殖系统和骨与软组织系统5个分册。

该图谱具有以下特点：(1) 从介入治疗临床实践出发，重点对介入治疗所需解剖结构的细节进行显示。(2) 所有结构均通过实物彩色照片进行显示，立体感强，真实性强，实用性强。(3) 用中英文两种文字对照说明，便于学习和交流。但由于我们学术水平不高，学识有限，缺乏经验，因此，本图谱一定有不少的缺点和错误，恳请各位前辈和同行批评指正。大连医大生物塑化有限公司为本图谱制备了全部的解剖标本，特此致谢。

隋鸿锦

2007.1

# Foreword

Human anatomy is an ancient morphological science, which is the important basic course of medical curriculum. It gives service to clinical diagnosis and therapy by providing the morphological data. Along with the incessant progress of modern science, various burgeoning methods for clinical diagnosis and treatment come forth constantly, which puts forward more and more new anatomical tasks simultaneously.

Interventional therapeutics appeared in the 1970's is a fresh marginal subject that combines medical imageology with clinical therapeutics. It delivers a special pipe to the diseased part through arteries or veins with a X-ray, CT or B-mode ultrasonic orientation, by which vascular embolism, vascular figuration, drug perfusion and bracket placement can be done for the purpose of clinical treatment. In order to implement the regional therapy for many diseases, the interventional doctors have been able to put a pipe or other instruments into almost all vascular branches, cannular structures (digestive tract, biliary ducts, and respiratory tract, etc.), and some special positions. Interventional treatment, apposing with medical and surgical treatments, has become one of the three important curative means, because of its advantages of tiny-wound, safety, simple-operation, excellent and rapid curative effects. Due to its rapid development during the recent decade, it has broken a new and effective therapeutic path for many incurable or refractory diseases. Now, interventional treatment that has become a main means for clinical therapy in modern hospitals is presenting a delightful complexion of improvement and popularization, and will become one of the most promising clinical subjects in the 21st century.

At present, there are no anatomical atlas designedly assorting with the clinical interventional treatment at home, which restricts some units develop this technique for the lack of correlative anatomical knowledge. Therefore, a group of young scholars in Dalian Medical University bravely took on this arduous mission and compiled this Anatomical Atlas for Interventional Therapy, which includes cardiovascular system, nervous system, digestive and respiratory system, genitourinary system, bone and soft tissue system-five fascicules.

The atlas is provided with the following features: 1 In order to serve the clinical practice, emphasis is placed on the explanation of anatomic details required by interventional treatment, 2 All of the structures are shown with practical color photos, which endows the atlas with high stereoscopic sensation, authenticity and practicability. 3 It is bi-lingual in Chinese and English in order to help promote international studies and exchanges. However, because of our limited academic level and limited learning, this atlas must have respectable defects and errors. We would be much obliged if experts and colleagues could point out mistakes so that they can be corrected. We wish to express our heartfelt thanks to Dalian Medical University Plastination Co., which provided all the specimens for this atlas.

*Dr. Hong-Jin Sui*

2007.1

# 本书序

在20世纪医学科学的发展中，最令人振奋的领域是心血管疾病的介入诊疗，她刷新了医学科学的多方面理论，变革了传统的诊疗模式，系列时代的进展。心血管疾病的介入诊疗，魅力无穷，前途无量，是矗立在医学科学发展途中的一座令人瞩目的丰碑。

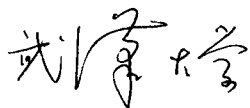
然而，心血管疾病介入诊疗的发展是伴随着其他学科的发展而发展的，如光学、电学、材料学、影像学、机械制造业等学科的发展，催生了介入诊疗学。事实上，介入诊疗学是多学科交叉渗透的结果，是科学诸族中的一个混血儿。

心血管疾病介入诊疗学的一个最大特点是要借助影像学进行诊疗，其依赖程度宛如大海航行靠舵手，蓝天飞翔靠雷达一样。有鉴于此，了解心血管正常、异常影像学图谱便显得极为重要，它直接关系到介入诊疗的精确度——诊疗的成功率。

由大连医科大学隋鸿锦、高连君、张树龙教授等编撰的《介入治疗解剖学图谱·心脏》一书，较为详尽地介绍了心血管疾病介入诊疗的影像学特点，比较直观地通过影像学图谱确认心血管的正常、异常及诊疗导管、器械的走向与归宿。捧读该书，但见分类科学、图文并茂，可视性、可读性极强。它不仅反映作者具有厚实的医学基础，也反映作者具有优秀的影像学才华，更反映作者是一位杰出的心脏病介入诊疗工作者。有鉴于介入诊疗是在对人体健康具有一定影响的X线下工作，对于被治疗者来讲仅一次，其对身体健康的影响程度可忽略不计；然而，对于常年在X线下工作的从事心血管病介入诊疗的医务工作者来讲，其日积月累的辐射效应则不可小视。

由此可见，该书的问世，也是这些专家们向世人奉献出的一颗爱心，一片赤诚……我似乎觉得它并不只是一部医书，而是诗，是画，具有诗的韵味，画的美感；似乎看到的是一支红蜡烛，燃烧了自己，照亮了他人……

——是为序



2006年初冬于珞珈山



# Preface

With the development of medical science in the last century, the arena that inspired people most, could be the intervention therapy of cardiovascular diagnosis and treatment, which renovated several aspects of the theoretics on medical science, and changed the traditional modes of diagnosis and treatment, that would be the epochmaking evolvement. The intervention therapy of cardiovascular diagnosis and treatment is so fascinating and full of prospect that has been regarded as an admiring monument.

Whereas the development of intervention therapy of cardiovascular diagnosis and treatment is always along with the development of the other subjects, for instance, photics, electrology, material subject, imageologic, machine manufacture subject, and so on, they all together form the intervention therapy. In fact, the intervention therapy is the result of the crossing and penetrating between several subjects, which could be called mixed-blood.

The greatest trait of the intervention therapy of cardiovascular diagnosis and treatment would be the use of image subject during diagnosis and treatment, the degree of dependence upon image subject could be just like the degree of navigation dependence upon steersman and flying dependence upon radar. Thus, it's so important to know the normal or abnormal atlas of cardiovascular that it's directly related to the degree of exactitude and the rate of success.

The book, *Anatomic Atlas for Interventional therapy of heart*, that was written by Dr. Hong-Jin Sui, Dr. Lianjun Gao, Dr. Shulong Zhang, and so on, of Dalian Medical University, elaborately introduces the character about imageologic of intervention therapy of cardiovascular diagnosis and treatment, also, through the imageological atlas, intuitionistically notarizes normal or abnormal of cardiovascular, direction and end-result of diagnosing catheters or machines. We can learn taxonomy by pictures and words together in this book that is absolutely sightworthy and readable. The book is not only reflected writers' solid medical basic, but also excellent imageological talent, furthermore being eximious operators on intervention therapy of heart disease. Whereas intervention therapy is operated in condition of X-ray, which is harmful to human body, the infected degree maybe neglectable to patient just once time, but to the medical operators, who engage in intervention therapy and be working all the year round in the condition of X-ray, radiant intensity can not be neglected at all. Therefore, the book also can be compared to love heart or absolute sincerity, I seem to see that she is not only a medical book, but also a poem or a picture, as she has lingering charm of poem and beauty of picture, and I seem to see a candle which enblaze others, but burn herself.....

Winter, 2006 in Rocky mountains

# 本书前言

目前心血管疾病的介入治疗已较为广泛开展,并成为常规治疗手段之一。如何掌握并熟练应用介入治疗技术,是每一个初接触这一领域的医生所面临的问题。也是一些有初步经验的医生在临床实践中,对于如何熟练掌握操作技术、有效地减少并发症所感到困惑的问题。解剖与影像学是介入治疗学的基础,只有掌握这些基础知识和临床医学的基础,才能成为一个合格的介入治疗的医生。在我国,介入治疗工作经历了开展、推广阶段,目前正处于推广与质量控制同步进展时期。我们现在提倡年轻医生如果想做好介入治疗,在了解与掌握疾病基本临床知识的同时,必须先掌握心脏的解剖学,熟练影像学,并能够将影像与解剖充分地联系起来。在临床实践中,很多成功的介入治疗专家实际上就是影像学专家。例如,发明新一代封堵伞的 Amplatz 教授、在全球首先开展心脏介入手术的美国 Dotter 教授、发明经股动脉穿刺的 Seldinger 教授等都是放射学专家。

心血管的介入治疗主要包括冠心病介入治疗、心率失常的介入治疗、心瓣膜病的介入治疗、先天性心脏病的介入治疗等。由于资料来源的限制,本书未能囊括全部内容,还需要逐步完善。书中所提供的临床资料均来自于我们心脏中心的医疗实践。解剖资料来自于解剖教研室提供的解剖标本。我衷心地希望本书能为介入治疗医生理解与建立心血管影像和解剖的概念提供帮助。对书中不足之处,希不吝指正。

高连君

2006年初冬

# Foreword

The intervention therapy of cardiovascular disease has been spread quite widely at present and been one of the general therapy methods. It is a problem which the doctors have to face that how to master and apply expertly intervention therapy when they contact the area at beginning. It is also a confused problem which the doctors with tentative practice will feel in clinical practice that how to be proficient in mastering operating technique and decreasing the intercurrent symptom effectively. Anatomy and imageologic are the basis of intervention therapy technique; the doctor cannot be a qualified one until he has mastered all of these basic knowledge and clinical medicine. In our country, the working of intervention therapy has gone through two stages of being developed and spread, now it is in the period of being spread as well as quality controlled synchronously. If the young doctors want to deal well with intervention therapy, we will advocate them that they need master anatomy of heart and imageologic, moreover can integrate the two of them while comprehending and mastering the basic clinical knowledge. In fact many successful experts on intervention therapy in clinical practice are also experts on imageologic. For example, dr. Amplatz, who invited the new generation of transcatheter occluders, dr. Dotter, American, who developed intervention operation of heart first in the whole world, dr. Seldinger, who invited femoral artery puncture, and so on, all of them are radiologists.

Intervention therapies of cardiovascular include mainly therapy of coronary heart disease, arrhythmia, cardiac valvular disease, congenital heart disease, and so on. Due to the limited recourses, the book doesn't include the whole contents, so it will be perfected step by step. All of clinical recourses mentioned in book are obtained from medical practice in our heart centre. Anatomy recourses are obtained from anatomy specimens of anatomy staff room. We sincerely hope that the book could help the doctors on intervention therapy with understanding and contributing the conception about imageologic and anatomy of cardiovascular. Please oblige us with your valuable comments to the insufficiency and mistakes.

*Lianjun, Gao*

Early winter, 2006

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