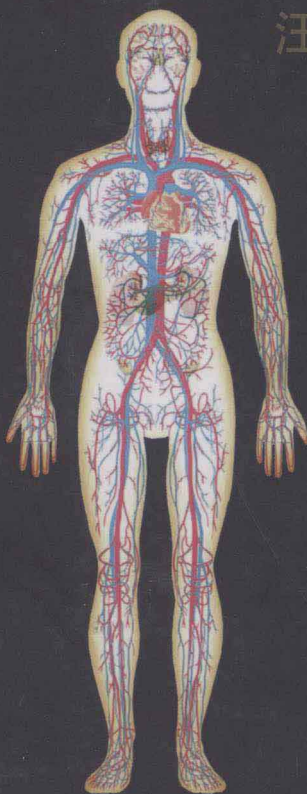
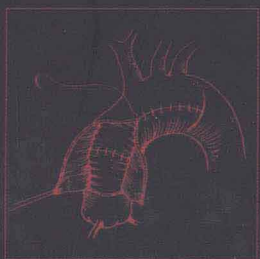




汪忠镐

血管外科学

汪忠镐 主编



ZHONGGAO WANG' S

VASCULAR SURGERY



浙江出版联合集团
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汪忠镐血管外科学

主编 汪忠镐



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序

血管外科学是现代医学中相对前沿,与多个学科相互交叉的一门新兴学科。我国血管外科建设起步较晚,许多技术的开展明显晚于世界先进国家。20世纪50年代,我国血管外科临床工作仅限于血管结扎和截肢。虽然1963年我国成功施行世界首例前臂离断再植手术,但是血管外科整体水平很有限,当时很多医院根本没有血管外科建制,整体学术水平与发达国家相比相差甚远。

进入20世纪80年代以后,随着我国社会经济快速发展,血管外科基础研究、临床实践等方面的进展也迅速加快,陆续开展了腹主动脉瘤切除术、颈动脉内膜剥脱术,以及腹主-髂-股动脉、股-腘动脉和更远侧动脉的血管重建术等许多新手术。特别是以汪忠镐教授为首的一批血管外科专家,在当时医疗设备十分简陋的条件下,在大动脉炎、动脉瘤、颈动脉体瘤、淋巴疾病治疗,以及腔内疗法治疗大血管疾病等方面,做了大量原创性工作,为我国血管外科学事业的发展奠定了坚实的基础。

尤其令人振奋的是,汪忠镐教授对布加综合征这个以往被医学界视为临床罕见、治疗棘手的顽症进行深入、细致的研究,终于在该病的诊断、治疗和基础研究等方面取得突破性进展。在国际上提出组织工程概念之前,率先进行人工血管生物化研究,全方位提高了我国血管外科学整体水平,为患者带来了福音。这一优异的创造性成果通过国际交流,受到各国学者的一致赞赏与推崇,从而推动我国血管外科学走向世界。

我认识汪忠镐教授已经20多年。他勤奋好学,勇于创新,是一位杰出的血管外科专家,也是我国血管外科学事业的创始人和开拓者之一。在近50年的医学生涯中,汪忠镐教授脚踏实地,埋头工作在医、教、研第一线。为了更好地为患者服务,汪忠镐教授废寝忘

食,刻苦钻研医疗技术,他以高超的医术救死扶伤,为无数患者解除病痛,使许多濒临死亡的患者获得新生;他倾情培育青年医师,为血管外科增添新生力量,他的弟子遍布全国,许多已经成为所在医院的学科带头人;他潜心进行医学基础与临床研究,大力开展新技术,硕果累累,一些成就已经步入国际前列,使他成为国内外医学界知名学者。

早在1996年,我就推荐他为国人写出我们自己的血管外科学著作。作为我国血管外科界的领军人物,汪忠镐教授在繁忙的工作之余,十年如一日,坚持笔耕不辍。他认真总结自己几十年来积累的宝贵临床经验和科研成果,结合国内外专家的经验,十年磨一剑,数易其稿,终于圆满完成任务。我和出版社都认为,书名应为《汪忠镐血管外科学》,以充分体现汪忠镐教授的学术特色,以及他对我国血管外科学事业的杰出贡献。这是汪忠镐教授继《血管外科手术并发症的预防与处理》一书之后,又一部极具临床指导意义的外科专业高级临床参考书。

该书为读者提供了汪忠镐教授本人和许多国内外专家多年来辛勤劳动取得的临床经验和创新成果,充分展现了汪忠镐教授扎实的医学功底,对患者的赤诚爱心,科学缜密的思维方式,开拓进取的创新精神,所以,原创性是该书的最大特点。对于疑难和少见病例,例如左侧下腔静脉畸形及其引起的胡桃夹综合征、肠系膜上静脉高压症、腹腔动脉压迫综合征等,采用图文并茂的附节形式进行深入浅出的描述,生动而具体,使读者可参考、可模仿,这种形式无疑是学术著作的一种创新。该书的许多篇章从人文科学、伦理科学、思维科学等方面探讨血管外科学理论与实践,把科学和人文结合起来,达到科学精神与人文精神的统一,也是该书的创新之处。

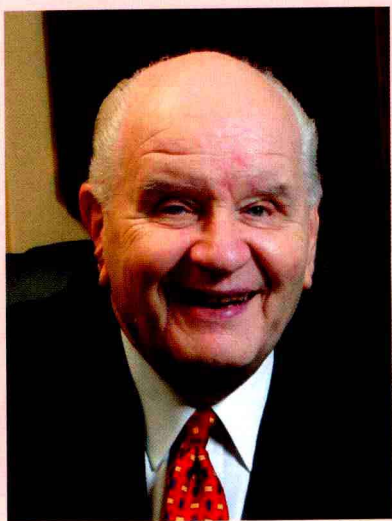
总之,《汪忠镐血管外科学》的出版是我国血管外科学界的一大盛事,同时也为医学知识宝库增添了崭新的内容。它必将成为我国广大医学工作者,尤其是青年医师的案头必备参考书。我热烈地予以推荐。

中国科学院院士

中华医学会外科学分会名誉主任委员

袁法祖

2007年10月于武汉



PREFACE

It is a great honor for me to have opportunity to write this preface to the book of *ZhongGao Wang's Vascular Surgery*. In my professional pursuits as a vascular surgeon I have visited China frequently in the last thirty years. I have treasured my friendship with Professor ZhongGao Wang and watched with amazement the parallel rise of China to its global status as one of the world's foremost nations with that of Dr. Wang from a bright young surgeon to the top echelon of Surgical Academia.

Academician ZhongGao Wang defies the accepted decree of astronomers that there are twenty-four hours in each day. When one examines his tremendous clinical and research output, the local and international meetings he has organized, the offices he has held, the editorial boards which he has served, the visiting professorships with their attendant lectures, and most importantly, the men he has trained, the only reasonable conclusion is that, this still not older man, though I expressed it as this still young man when I wrote another introductory note for him ten years ago, has found a way to double or treble time.

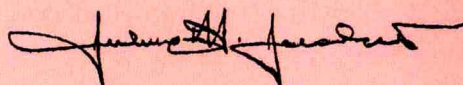
He is known to the western world for his work on the Budd-Chiari syndrome. Nonetheless, his current book covers all major problems in vascular surgery, the chapter on Budd-Chiari syndrome, endovascular treatment, Takayasu's arteritis, carotid body tumor, chylous ascites, etc. are his favorites. The unique character of this book is that there are many sub-chapters attached, which makes the book more readable and

practical, such as nutcracker syndrome caused by the left-sided inferior vena cava, debranching techniques in thoracic aortic aneurysms and dissections, postoperative intractable chylous ascites, mesenteric vein to jugular vein shunt for Budd-Chiari syndrome; 18 years follow-up, and so on. In addition, there are topics on superior mesenteric venous hypertension, median arcuate ligament syndrome, nutcracker syndrome, superior mesenteric vessel syndrome, economy class syndrome, intestinal lymphangiectasia, etc. , which are new.

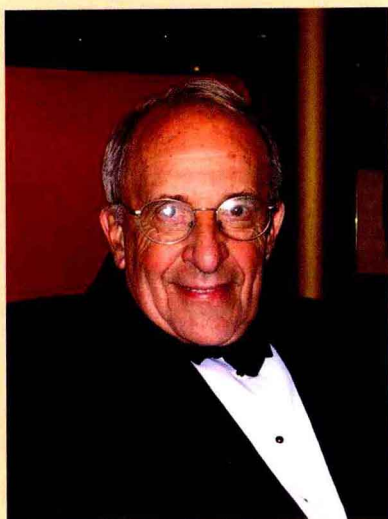
This book covers from clinical topics range from cerebral insufficiency to lymphedema (even Bechet's syndrome) and its inquiries into basic science from platelet deposition to those still exciting horizons, intimal hyperplasia, vasculogenesis, and therapeutic gene therapy which are integral parts of the new endeavors characterized by the term, translational research.

It is said that the greatness of a teacher is identified when his student surpasses him. The first of my many visits to China, thirty years ago, was at the invitation of Professor YingKai Wu, who at that time had great stature in the United States and was China's "Mirror to the West". I am sure that Professor Wu is proud to be known as the teacher of ZhongGao Wang.

China owes a great debt to this indefatigable physician, professor and scientist and I am proud to be associated with him and this important publication.

A handwritten signature in black ink, appearing to read "Julius H. Jacobson II". The signature is fluid and cursive, with a prominent loop at the end.

Dr. Julius H Jacobson II , MD, FACS
Distinguished Service Professor of Surgery
The Mount Sinai School of Medicine
New York, NY, USA
Board of Directors, American College of Surgeons Foundation



PREFACE

Congratulation on the occasion of the publication of the book *ZhongGao Wang's Vascular Surgery*. I know you have been working very hard for 13 years to publish this book which is full of your own practice, experience and physiological thinking focusing on how to deal best with patients suffering from the most serious medical problems.

It has been my good fortune to have established a friendship with Professor ZhongGao Wang which has lasted for over 25 years. As I recall, we first met at a meeting in Japan. We had common interests in aortic surgery, and I was amazed by your large experience treating patients with the Budd-Chiari syndrome. We at Johns Hopkins University were very pleased when you agreed to visit us and report your experience to Professor John Cameron. We have enjoyed many formal and informal social times. I remember how you really enjoyed a ride in my motor boat and watching the baseball game between faculty and residents. We became good friends as well as colleagues.

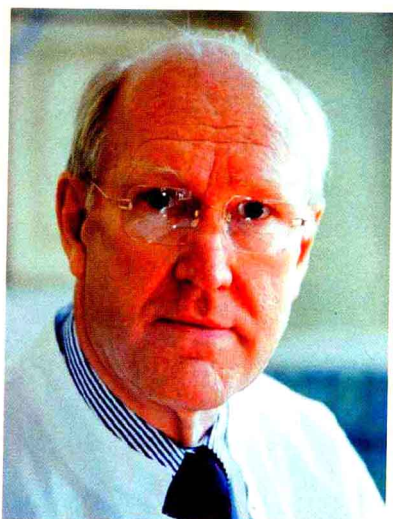
Professor Wang returned the favor and invited me to attend a vascular meeting in Beijing. I was born in Suzhou as my father was a professor at the Soochow University. We left China when I was 10 years old, and Professor Wang's meeting was the first opportunity for me to return. I had tried out my Suzhou dialect on some Chinese visitors, and I might as well have spoken Greek. However, Professor Wang from Hangzhou was able to understand what Chinese I could remember which encouraged me to return to Suzhou on my own. I was amazed that the old campus buildings were still there in good shape.

However, the old campus was very small compared to the huge expansion across the street.

Professor Wang and I have enjoyed each others company in many meetings in both China and the USA. He has present frequently consented to share his experience as a vascular surgeon with us at Johns Hopkins University, and we have always learned from him. It is very clear that Professor Wang was unique in his ability to organize excellent international meetings because of his international reputation. He has been a pioneer not only in Budd-Chiari problems, but on methods for seeding of endothelial, even bone marrow cells in vascular grafts, in the treatment of severe Takayasu's arteritis where there was obstruction of all the brachiocephalic vessels, huge carotid body tumors, and complex aortic aneurysms treated by a variety of innovative ways. These included developing his indigenous endografts for femoral AVF, carotid-jugular AVF, strait endograft for AAA and aortic dissections since 1995. More recently he has pioneered the treatment of gastro-esophageal reflux complicated by respiratory compromise. As the years pass I feel honored to be considered ZhongGao Wang's "Big Brother" feel honored to comment on his work.

A handwritten signature in black ink, reading "G Melville Williams". The signature is fluid and cursive, with the first name "G" being a simple capital letter, and "Melville Williams" written in a more elaborate, flowing script.

G Melville Williams, MD
Bertram M Bernheim Professor of Surgery
Department of Surgery
Johns Hopkins Hospital
Johns Hopkins University School of Medicine
Baltimore, USA



PREFACE

This is the latest scientific work by Academician Prof. ZhongGao Wang which we hold in our hands. *ZhongGao Wang's Vascular Surgery* covers a broad spectrum of vascular probes, scientifically as well as from the clinical aspect. As we can see from the list of contents. It is like a textbook and it represents a collection of different single papers on different topics. After general consideration we find contributions on basic theoretical issues. Continuing with examination techniques and followed by detailed descriptions of venous and arterial disorders. Vascular trauma and lymphatic diseases are not excluded, and of course, a major chapter on modern endovascular techniques is worth to be read.

It is admirable how the author could pile up such a voluminous book full of important details in every chapter without a lot of external help. There are, however, a few contributions from international experts, but basically it is the pure product of Prof. ZhongGao Wang himself.

The secret of Prof. Wang's success and international reputation not only does exist in his unique capability as an academic teacher who has taught generations of young vascular surgeons in China, but also in his widely open interest in an international scientific exchange.

In the 1980s, on the basis of his success (especially on Budd-Chiari syndrome) he was invited to Europe, USA and many other countries to give lectures.

Apart from this he brought early in the 1980s from Europe, the USA and from elsewhere to China. I gladly remember my first visit to his service at the AnZhen Hospital in Beijing, and after this so many lectures in different cities of the country and also operations performed together.

Prof. Wang himself was eager to experience but also to acquire new ideas from abroad. Therefore he travelled a lot to the USA, to Europe and within Asian and established a permanent contact between international expert groups. This made him one of the best known vascular scientists from China in the world.

China has to thank this great personality a lot for his contribution to the fame of his country, the substantial work for educating the next generation of vascular surgeons and his humanity for the patients.

I am really proud for having met and accompanied over decades the grand pioneer and "elder statesman" of Chinese vascular surgery.

Henner Mueller-Wiefel

Dr. Henner Mueller-Wiefel

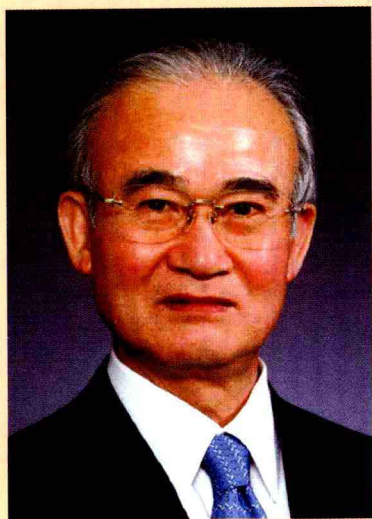
Past President German Soc for Vasc Surgery

Past President European Soc for Vasc Surgery

Formerly Head of Vascular & Endovascular Surgery

Academic Teaching Hospital St. Johannes

Duisburg/Germany



序文

血管系は独特な構造を有して全身に分布し、循環機能を維持している。血管の障害は変性（動脈硬化）に起因するものが大半を占め、社会の経済発展、食生活の変化とともに近年益々患者数が増加している。血管障害のそのほかの原因として奇形、外傷、炎症、腫瘍等がある。血管外科診療においては局所病変のみでなく、広く患者の全身状態を把握して治療を行うことが何よりも大切である。

Zhong Gao Wang 教授は中国国内においてはもとよりアジア地域における血管外科の先駆者であり「Zhong Gao Wang's Vascular Surgery」が出版されることはアジアにおける血管外科発展の新しい一里塚になるものと思われる。Wang 教授は1987年、北海道大学の田邊達三会長が札幌市で開催した第17回日本心臓血管外科学会の折り、同時に開催された国際大動脈炎会議（三島好雄会長）で特別講演を担当されたが、Wang 教授の発表された大動脈炎（高安動脈炎）患者数の膨大さと優れた手術成績は日本の血管外科医に大きな感銘を与えた。1988年、山東済南でWang 教授と三島教授が中心となって開催された第1回国際 Budd-Chiari 症候群は今日まで継続している。この学会はBudd-Chiari 症候群に対する最初の国際学会であり、Budd-Chiari 症候群治験の進歩に大きな成果を上げてきた。Wang 教授は三島教授とともに1990年にはアジア血管外科学会を創設し、アジア地域における血管外科における人と学術交流、血管外科学発展にも大きく貢献してきた。

本書の内容は、血管外科の歴史の記述から始まり血管外科の基礎理論、検査手技、治療法について各著者が各々の豊かな臨床および学術経験から導き出した成果を内容

豊富に、且つ、わかりやすく記述している。取り扱う領域は末梢領域の動脈、静脈から大動脈、大静脈、さらにはリンパにまでに及んでいる。アジアに特異的に多いとされる Buerger 病、高安動脈炎、血管ベーチェット病についても詳述されている。著者の Wang 教授と私の交友は20年以上にわたっており、Wang 教授の組織力、学問に対する真摯さ、情熱を身近に見て、Wang 教授から学ぶことができたことは私の大きな喜びとする次第である。大動脈から末梢動脈疾患、静脈疾患にわたって網羅した本書は、間違いなく血管外科の発展、充実と安全に向けて役立つ優れた指導書であると考ええる。これから血管外科を目指し、第一戦で一層の活躍が期待される外科医の間で座右の書として愛読されることを期待する。

北海道大学名誉教授
日本血管外科学会前理事長

安田 慶方

2008 年 12 月



自序

1996年,承蒙恩师裘法祖院士推荐,人民卫生出版社邀请我编写一部当代血管外科学著作,恩师明令:“写出一流水平、一流质量、一流内容、一流技术的传世之作。”13年来,血管外科学飞速发展,新理论、新技术、新方法层出不穷。为了追求本书的完美,在这13年里,冲刺四次,数易其稿,但是每次都不能令自己满意。我认为著书立说如果不能与时俱进、精益求精,就会严重束缚人的积极性和创造性。所以,迟迟没有交付出版。

2007年,浙江科学技术出版社盛情邀请我主编一部具有中国特色的血管外科学著作。历经13年的千锤百炼,不断充实、完善、提高,我终于对这部书稿感到勉强满意,同意交由浙江科学技术出版社出版,裘法祖院士和出版社双双力主:书名必为《汪忠镐血管外科学》,对此我心中感到十分不安。在本书即将付梓之际,不幸“故人已成新塔”,裘法祖院士“做人、做事、做学问”三原则,无疑是吾辈行医做人之金玉良言。

我出生在浙江农村,童年时代在抗日战争的战火硝烟中度过,生活异常艰辛。后来受父亲的影响,走上医学道路,1961年从上海第一医学院(现复旦大学医学院)毕业后,分配到北京协和医院外科工作。在北京协和医院外科,我师从曾宪九教授,从护士做起,严格遵守24小时负责制,同时也深受黄家驷、张孝骞、林巧稚、池芝盛、冯应昆、陈敏章、罗慰慈、张之南、吴蔚然、费立民、方圻、冯传宜、朱预、徐乐天、刘国振等医学大师的影响。20世纪60~70年代,我积极参加开门办学(平谷、延庆)、地震救灾(唐山)、抢险救灾(吉林)、战备医疗(京郊)、卫星发射医疗保障(酒泉)、贫下中农病房(协和、大西北)等,在上述医疗、教学队伍中工作累计长达7年。不分内、外、妇、儿科,凡遇危急重症必然全力以赴救治,在医学生涯的前十多年里,虽然我是一名外科医师,但是大多数时间实际承担的是全

科医师的工作。在协和优秀传统的熏陶下,加上自己不断学习、总结和思考,外科和血管外科知识、技术逐步有所积累。20世纪80年代初,恩师曾宪九教授决定由我主攻血管外科,从此走上血管外科专业的道路。经历了种种复杂疑难危重病例救治,临床经验与日俱增,能力和技术逐步提高,对某些疾病的诊治酝酿出新的思路和设想,一些原创性的概念和治疗方法应运而生。

本书的内容是根据我近50年医学生涯的临床实践、研究和思考,以及与国内、国际同行交流之心得体会写成,倾注了毕生的精力,在某种程度上,读者也许能够通过本书看到我人生的一个缩影。我非常希望将自己的技能、经验和教训,当然更重要的是临床思维和基本医德传授给年轻医师,使他们在成长的过程中少走弯路,在遇到困难和挫折时,能够多一点信心、勇气和力量。

医师是充满爱心的人道主义者,他们和人文学者的共同点,就是研究和服务的对象都是人。本书不少篇章从人文科学、伦理科学、思维科学等方面探讨血管外科学的历史、现状和发展,旨在提高血管外科医师的综合素质,以及分析和解决实际问题的能力。目的就是使科学人文化,主张既要重视科学的物质价值,又要重视科学的精神价值。使自然科学与人文科学协调发展,使科学精神与人文精神有机统一起来。

本书注重科学性与实用性相结合,理论与实践相结合,常见病与罕见病共存。对于典型病例和重点问题,采用附节的形式加以深化,突出危重疑难病症的处理,提高实用性和参考性,力争做到具体、生动,可模仿。其他著作少有论述的疾病如多发性大动脉炎、布加综合征、颈动脉体瘤、肝外型门静脉高压症、肠系膜上静脉高压症、小肠淋巴管扩张症、胡桃夹综合征等,本书均做了重点论述,器官移植血管外科技术由特邀学者撰写。

本书邀请多位国内外知名专家学者加盟,他们均为经验丰富、各有专长的同行,部分内容以英文原稿编入,反映作者工作、思维和写作的原生状态,体现本书海纳百川的开放胸怀,兼容并蓄的国际化视野,以便读者在处理血管外科问题时,能够开阔视野,激发灵感。

深知学海无涯,虽然在医学领域辛勤耕耘50年,仍然感觉自己掌握的知识只是沧海一粟。受恩师和前辈的指引,将自己的经验和教训总结出来,供后来者借鉴、参考。由于本书撰稿时间长,加之近年来医学科学发展迅速,难免争议、欠缺和差错,敬请读者批评指正。长江后浪推前浪,青出于蓝胜于蓝,希望更多的年轻才俊能够继往开来,不断超越,勇攀新的高峰。

感谢首都医科大学宣武医院、第二炮兵总医院的大力支持,感谢主编助理王湘水教授、潘松龄教授、陈兵教授、李震教授、丁滨副编审对本书编写所承担的繁重工作,感谢浙江科学技术出版社的热心与努力,也向所有关心、支持本书出版的各界友好和热心读者表示敬意和感谢!

中国科学院院士

首都医科大学宣武医院血管外科学教授



2009年3月于北京



汪忠镐院士简介

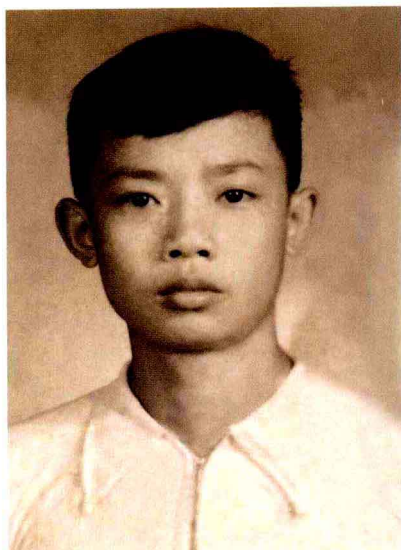
汪忠镐院士,1937 年出生,浙江省杭州市萧山人。1961 年毕业于上海第一医学院(现复旦大学医学院),是我国血管外科学重要奠基人之一,2005 年当选为中国科学院院士。历任中华医学会外科分会血管学组首任负责人及终身名誉主任委员、国际脉管学院副主席、国际血管联盟顾问、前亚洲血管外科学会主席、国际血管联盟副主席、国际脉管杂志副主编、国际血管外科年鉴编委、国际布加综合征学会创始主席、美国血管外科学会杰出会员、印度血管外科学会名誉会员。

汪忠镐院士在布加综合征、大动脉炎、颈动脉体瘤等疑难疾病的诊断、治疗,以及血管腔内疗法、人工血管生物化、骨髓细胞向内皮细胞分化等方面的开创性成果国际领先,在国内首先开展颈动脉内膜剥脱术治疗脑缺血、血管重建术治疗糖尿病肢体缺血等,全方位提高了我国血管外科学整体学术水平,推动我国血管外科学步入世界先进行列。

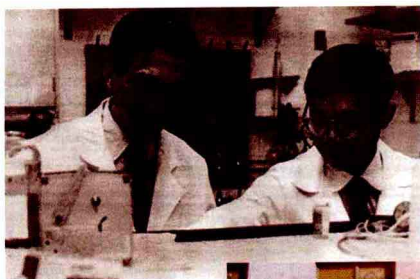
汪忠镐院士在 Harvard University、Yale University、Johns Hopkins University、Duke University 和 Stanford University 等国外 60 多所大学做特邀报告 80 多次。发表论文 400 多篇,出版著作 12 部,参与编写著作 68 部,为国际血管外科学权威 Victor 教授的著作《下腔静脉缩窄》作序。在国际会诊中任主刀 6 次,召开国际会议 14 次,应邀在国际会议做报告 97 次。

1996 年、1998 年、2002 年和 2004 年分别获国际脉管学院、国际血管联盟、国际布加综合征学会和印度总统颁发的研究成就奖、功勋奖、终身成就奖、发展血管外科事业奖和亚洲血管学会成就奖。获国家科技进步二等奖和部级科技进步奖共 12 项,获国家专利共 12 项。2005 年获《中华医学杂志》创刊 90 周年纪念“金笔奖”,2007 年获首届“吴阶平医学奖”。

汪忠镐院士已经 70 岁高龄,仍然奋斗在临床和科研第一线,为救治血管外科患者及胃食管返流患者努力工作着……

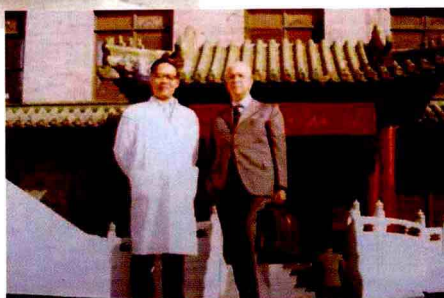


1956 年,汪忠镐毕业于杭州第一中学



1979~1981 年,
汪忠镐作为教育部
首批出国访问学者,
在美国 Duke 大学从
事科研和临床工作

1981 年,美国
麻省总医院 John
Manic 教授访问北
京协和医院血管
外科



1988 年,在苏黎世德奥血管大会上做报告,与
德国血管学会主席 Becker 教授等国际同行合影



1988 年,在 Duisburg 大学医学院做报告,与
Mueller-Wiefel 教授合影



1990 年,在英国伦敦大学做颈动脉体瘤报告,
汪忠镐及夫人与 Eastcott 教授在伦敦大桥合影



1991 年,第二届国际布加综合征大会上,与
大会主席、日本京都大学 Ozawa 教授在一起