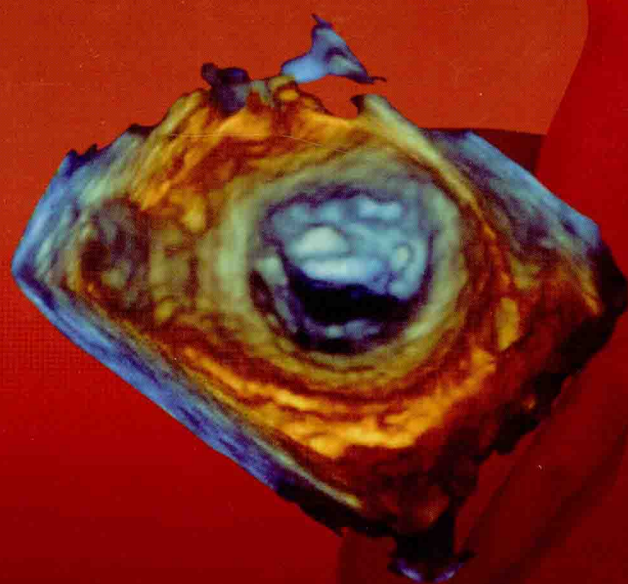


卡普兰 心脏麻醉学 超声时代

Kaplan's Cardiac Anesthesia
The Echo Era

第6版



主编 Joel A. Kaplan
主译 李立环

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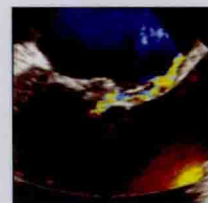
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正如作者在前言中所写,该书为《卡普兰心脏麻醉学》的最后一版。《卡普兰心脏麻醉学》自1979年第1版问世以来,对心血管麻醉领域产生了重大影响,成为该领域经典、权威的教科书和参考书。2011年在济南召开中华医学会麻醉学分会学术年会期间,心胸学组全体委员经过认真讨论,决定接受人民卫生出版社的委托,集体翻译出版最后一版的《卡普兰心脏麻醉学:超声时代》,并由心胸学组组长担任主译,副组长担任副

主译,心胸学组全体委员分别负责全书各个章节的翻译和校对工作。经过翻译团队共同努力,克服各种困难,中文版今日终与读者见面。鉴于参与译、校工作人员众多,更由于主译水平所限,译文肯定会存在这样那样的缺点和错误,敬请批评指正。

李立环

原著前言

第6版《卡普兰心脏麻醉学:超声时代》的出版是为了进一步改善心脏病人行心脏手术或非心脏手术时的麻醉处理。本书第1版发行于1979年,那是正当现代心脏手术起步之时,自那以后,该领域的蓬勃发展促使心脏麻醉成为麻醉学的主要亚专业。作为心血管领域标准参考书,为了能够实时反映心血管治疗及监测的日新月异变化,尤其是超声及其他影像技术的发展及其应用范围的扩大,本版进行了全面、彻底地修订、拓展和更新。许多知名心脏病学专家及心脏外科学专家对本书成书作出了重要贡献,使本书涵盖的心脏病人监测和治疗的内容更为广泛及翔实。

本版以副标题“超声时代”来强调当今TEE及其他超声技术围术期的发展。许多作者在本书中描述了TEE的临床应用进展,并讨论了现代麻醉医师广泛应用TEE进行临床监测及疾病诊断。Weiss和Savino强调使用决策程序(decision-making process)来描述特定临床情形:①麻醉医师/超声医师要提问的问题;②采集超声和非超声信息;③根据知识、图像及信息的整合决定临床措施;④在与外科医师和其他临床医师(如心内科医师)充分讨论基础上,将推荐意见付诸行动。

第6版内容范围广泛,涵盖从转化医学的基础科学,到最危重和最复杂心脏病人的临床治疗。本版的最后部分命名为“心脏麻醉教学”,强调减少医疗过失,以便进一步改善我们的医疗水平;讨论了心血管麻醉的训练及证书制度,包括TEE的教育程序及证书发放。因上一版采用的新教学辅助较为成功,所以在本版每个章节的开始部分都突出了要点(Key Points),同时示教框(Teaching Box)也罗列了需要牢记的重要信息。贯穿全书的重点是采用最先进的科学进步成果来指导围术期临床治疗。

《卡普兰心脏麻醉学:超声时代》是由各领域或相关学科知识渊博专家执笔。本书采集了心血管领域最新信息,具有权威性。每个章节试图提供该领域的基础研究、临床应用的依据和可能应用的结果信息。所有章节都以利于最大程度的临床应用为旨进行了调整。章节内容尽可能整合麻醉学、心脏病学、心脏麻醉、生理学和药理学知识,为临床应用绘制全景图。

因此,本书作为特定教科书,其读者群将包括心血管麻醉住院医师、主治医师、心脏内科医师、心脏外科医师、监护室医师和其他一些对管理心脏手术或非心脏手术病人感兴趣的医师。

心脏麻醉学是复杂和综合的医学领域,它与麻醉学、心脏病学和外科手术的许多专科领域相结合。监测模式通常是临床实践的一部分,它为我们提供数据以便改进治疗及干预措施。过去的30年,监测设备越来越复杂。许多监测技术由心内科专家首先使用,然后应用于外科手术领域。心电图V₅导联首先在运动负荷中应用,后来成功用于监测术中心肌缺血。Swan医师首先在CCU研发和使用肺动脉导管(PAC),他告诉我,心衰及心源性休克的高危患者使用PAC更合适,这个适应证将使PAC的应用不局限于心内科医师,事实确实如此。

现在,我们跨入了超声时代。心内科应用的经食管超声(TEE)已经广泛用于心血管麻醉监测、诊断和指导外科手术进程(如瓣膜成形术)。TEE改变了手术过程,改善了对患者的处理及药物治疗的选择,就如同本书指出的那样。但是,心脏麻醉临床实践不只是对监测数据的解释,那些相信和强调拥有TEE证书就可使一个麻醉医师成为心脏麻醉医师观点是极其错误的。临床心脏麻醉包括解释TEE,就像解释其他监测数据一样。临床心脏麻醉涵盖的内容极为丰富,这也是本书信息量大的原因。本书整合了心脏外科病人监测的所有相关领域,正是因为这个围术期全天候监测使得世界最著名的心脏病学家之一,J. Willis Hurst医师,在给第1版《卡普兰心脏麻醉学》写的序言中说出了这样的话:“心脏病学医师以敬畏的眼神注视着现代心脏麻醉医师(This cardiologist views the modern cardiac anesthesiologist with awe)”。

诚挚感谢每个章节作者为本书所做的努力。他们是当代心脏麻醉领域具有奉献精神的专家,也是全世界献身心脏麻醉的年轻医师的老师。没有他们的辛苦工作及丰富专业知识就没有本书的出版发行。

Joel A. Kaplan, MD, CPE, FACC
(方能新译 李立环校)

变革永恒(Nothing endures but change)

——赫拉克里特(Heraclitus)

医学发展日新月异。人类社会科学成果应用于医学领域日渐增多,最终使患者痛苦减轻。如同其他医学实践一样,麻醉医学的艺术性和科学性,尤其是心脏麻醉,日新月异。麻醉医生的职责不仅使患者无痛,更要根据科学的基本原理来完成复杂的医疗技术操作。作为心脏麻醉专科医生,大量涉及病情评估及生理操作,已很难划清麻醉医师、病理学医师和介入医师的界限。患者越来越复杂,心血管麻醉医师在促使患者成功转归方面的关键性作用越来越显著。

心血管麻醉专科的进步来自于掌握了心脏及呼吸生理学、生物化学、药理学、神经科学的广博知识。可是,心脏麻醉医师百尺竿头的更进一步,则来自于技术进步。本版《卡普兰心脏麻醉学》编纂、出版时,正值心血管麻醉亚专业临床实践发展的关键时期,不论是简单还是复杂心脏病的治疗都在变革,心脏麻醉也在更新中。与此同时,麻醉学和心脏病学在影像学方面取得了重要进展。局部麻醉现在已不仅依靠体表标志来定位,还可通过图像直视来指导操作。心脏病学方面,当新影像或量化技术已呈现在互联网上时,出现了心脏生理学的新变化,这些变化可能是首次发现,也可能是再次受到重视或重新进行更合理诠释。而且,新影像方法学就像人的眼睛一样,使心脏植入和修补方面的导管技术发生了革命性的改变。这些技术避免了胸骨劈开及体外循环,并由此进入超声时代。

二尖瓣成形术后通过触诊感觉震颤来判定手术是否成功的时代,对于心血管麻醉医师来说,已经一去不复返了。心血管麻醉医师现在已能够采用复杂技术来量化心脏生理多项指标。心脏已停跳却未能发现,仍进行开胸手术的时代也不会重现。影像学介导的创伤小、感染少和因体外循环导致的终末脏

器损伤少的新手术,将是心脏手术发展的潮流。虽然以后相当长时间内,体外循环心脏手术仍将占主导地位,但同样在这个时代,心导管技术将会使不停跳心脏手术逐步完善。影像学将是这些微创新手术的中流砥柱。材料科学和微电镜的进步最终将三维影像探头放置在导管尖端,这使得外科医师可以在搏动的内心脏内完成手术操作。瓣膜钙化性狭窄的高龄患者瓣膜手术方式正在改变。经皮主动脉瓣置换手术(TAVI)的进步一日千里,该类手术现已超过20 000例。这些手术早已避免胸骨劈开和体外循环,以至于有些患者甚至不需气管插管和全麻。随着时间的推移,这类手术是否安全、可靠将有结果。体外循环已经带领我们走入21世纪,影像学将引领我们迈入下一个年代,这个过程既确定又清晰。心血管麻醉医师现面临着职业生涯选择:是成为新介入团队的关键性成员,还是满足于成为这些新技术的旁观者。

20世纪90年代,超声心动图作为二尖瓣成形术检测和诊断工具,不可或缺。技术创新瞬息万变,采用时间和空间更详尽地研究结构的技术是新的进展。处理光束的并行算法和心脏影像机械自动分析新技术将使反流量、心肌收缩、四腔心和瓣膜量化的3D评估最终成为可能。计算机功能越来越强大,影像成像更为简单。

超声时代将使治疗及诊断指南突飞猛进。Kaplan, Reich和Savino等医师引领我从一个医学生成长为心脏麻醉医师,对此,我深感荣幸。本版书的主体由一群世界著名专家执笔,不但全面、新潮,而且在这充满生气的新时代里,为读者更上层楼提供了参考工具。

Ivan S. Salgo, MD, MS
(方能新 译 李立环 校)

题词

献给心脏外科学及麻醉学的先驱们,是他们引领我们迈入这个令人神往的技术及技艺时代,使我们的临床水平竿头日上。

卡普兰教授是加拿大心脏外科领域的一位巨人,也是世界上杰出的医生,他不仅是一个杰出的外科医生,还是一个杰出的教育家和领导者。他以其卓越的领导才能和无私的奉献精神,为心脏外科领域的发展做出了巨大的贡献。他的去世,是加拿大心脏外科领域的巨大损失,也是世界心脏外科领域的巨大损失。我们怀着无比沉痛的心情,对卡普兰教授的逝世表示深切的哀悼,并向他的家属致以诚挚的慰问。卡普兰教授的遗孀和子女,我们表示同情和慰问。卡普兰教授的遗孀和子女,我们表示同情和慰问。

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Joel A. Kaplan, MD, CPE, FACC
(原 英文稿, 经 翻译)

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第1部分

I

术前评估与管理

