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Transplantation of the Pancreas

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中文版序

目前,糖尿病已成为严重威胁人类健康的重大公共卫生问题,患病率逐年增加,医疗费用投入比例日益增高。近半个世纪来,经过人们在糖尿病研究方面的不懈探索,胰腺移植已成为治疗糖尿病的有效手段。我国胰腺移植有近30年的发展历史,现正处于快速发展阶段,在移植例数、手术类型和术后效果等方面均取得了很大成绩,移植物和病人的近、远期生存率也在逐年提高。尽管如此,我们胰腺移植整体水平在宏观管理和经验积累方面与国际先进水平相比仍有一定差距,临床工作中仍有许多理论和技术问题需要进一步丰富和完善。

《*Transplantation of the Pancreas*》堪称胰腺移植领域的一部权威著作。该书由David. E. R. Sutherland 教授主编,对明尼苏达大学以及多家国际著名移植中心在这一领域所取得的经验进行了详尽阐述,内容广泛涉猎糖尿病及其并发症的内外科治疗、基础与临床研究等各个方面,为移植医生、内分泌医生等糖尿病相关领域的医务人员提供了有力的理论指导。因此在拜读此书后,我们在人民卫生出版社的支持下,组织人员对该书进行翻译,以期我国的胰腺移植工作尽一份心力。

由于该书涉及面广,术语量大,翻译过程得到了相关领域专家的大力帮助,在此表示衷心感谢。然而,由于时间所限,译文中不当之处在所难免,敬请读者批评指正并不吝赐教。

鸿鹄高飞定能一举千里,羽翼已就势必翱翔寰宇。最后,衷心祝愿我国的器官移植事业在国内全体同仁的共同努力下,连创佳绩,永铸辉煌!



2007年10月26日于沈阳

前言

1966年12月17日，William Kelly 和 Richard Lillehei 在明尼苏达大学进行了世界上首例胰腺移植。但是，直到钙神经蛋白抑制剂（20世纪80年代环孢素问世，20世纪90年代他克莫司问世）应用于临床后，胰腺移植才得以广泛开展，成为挽救胰岛素依赖型糖尿病病人生命的治疗手段。在过去的20年间，胰腺移植领域取得了巨大成绩：免疫抑制治疗不断完善，外科手术并发症显著降低，预防性应用强效抗生素，移植胰腺排斥反应的诊疗技术进一步发展。由此，胰腺移植数量得以稳定增长。根据国际胰腺移植登记中心（IPTR）显示，世界上每年进行的胰腺移植多达1800余例。现在移植物一年生存率已超过80%，人一年生存率达95%。

目前，世界上有将近10%的胰腺移植是在明尼苏达大学进行的。鉴于该中心在胰腺移植领域积累了大量宝贵的经验，本书的大部分章节都是由明尼苏达大学移植中心的历届成员编著的，同时也包括曾在明尼苏达大学接受过培训并独立开展项目的专家学者。此外，还有几处关键章节由其他中心的知名专家编著。

本书旨在对胰腺移植进行全面、系统的综述，为外科医生、移植医生、内科医生和内分泌学、肾脏病学、免疫学、病理学、神经学、心脏病学、眼科学、胃肠病学等相关领域的研究者提供一个理论参考。一本权威的著作，能够引起医生、护士、住院医师、学生、社会工作者、医院管理者和其他医疗专家的广泛兴趣。这本书难得之处在于探讨了糖尿病的病理生理机制和非移植治疗手段的局限，介绍了胰腺移植的实验研究和临床发展史，并对不同外科技术进行分析比较。它还对移植后并发症及其治疗进行了全面、详尽的阐述，如：普通外科、血管外科、腹腔镜外科技术、介入治疗、重症监护和感染性疾病的防治等。文中还加入了一些章节专门讨论胰腺移植受者的免疫抑制治疗、免疫学、病理学、远期预后、生存质量等问题，并对糖尿病并发症的研究结果进行了综合报道。目前，胰腺移植领域正在不断完善的问题包括：胰腺移植候选者的术前评估、活体捐献、脆性糖尿病非尿毒症病人和2型糖尿病病人的护理。最后两章讲述了胰岛移植现状，并比较了胰腺移植和胰岛移植在治疗胰腺内分泌疾病中的作用。

Rainer W. G. Gruessner, MD
David E. R. Sutherland, MD, PhD

供者切取步骤

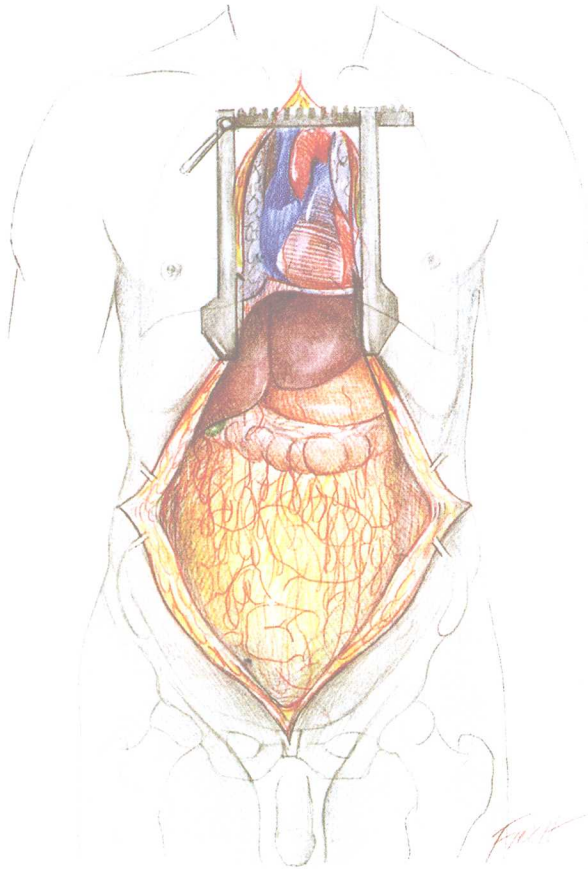


图 8.1.3.1 从胸骨上切迹至耻骨联合正中纵向切口，腹正中横向切开并向两侧拉开。

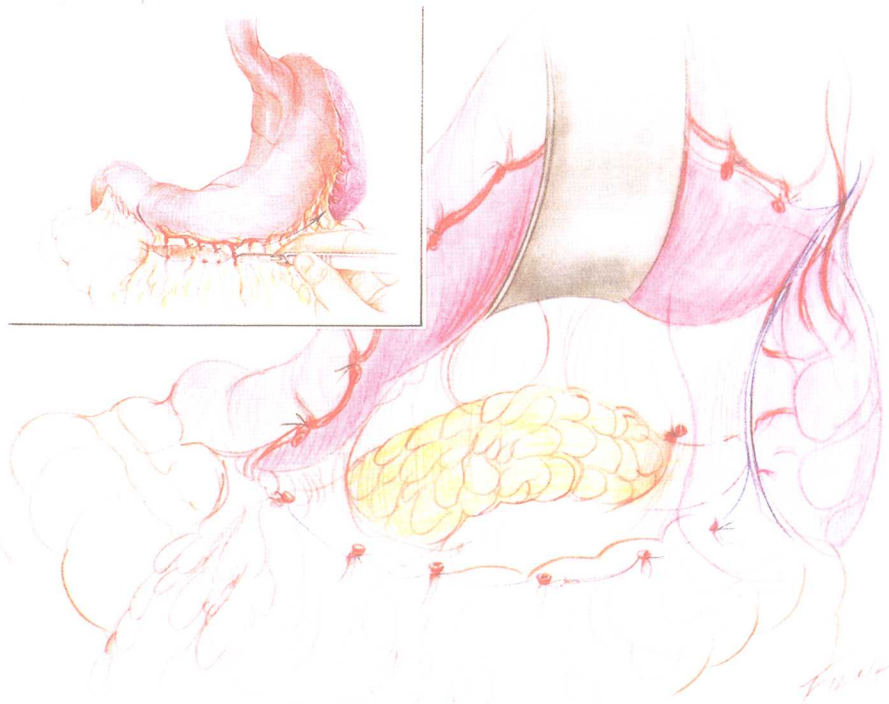


图 8.1.3.2 分离和结扎胃结肠韧带（插入的小图），打开小网膜囊，暴露胰腺体尾部。

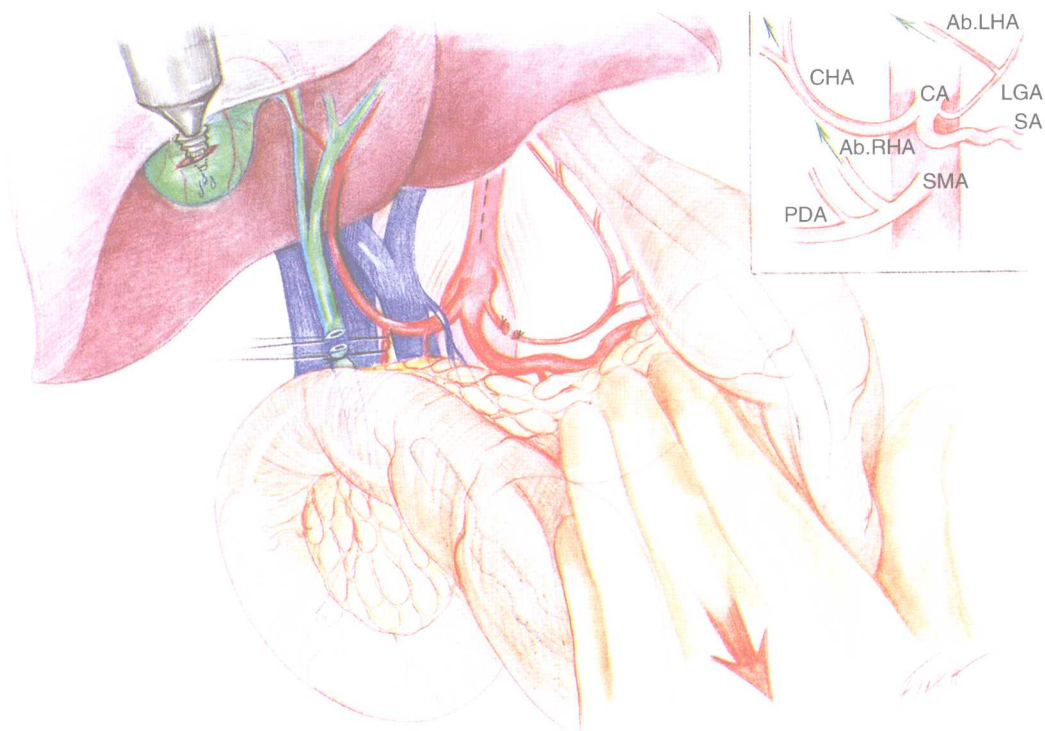


图 8.1.3.3 肝十二指肠韧带的解剖。切断胆总管并结扎远端（在胰腺上缘）；结扎胃十二指肠动脉。在膈肌脚处可见腹腔干在主动脉的起始部，右上方副图可见血管走行；异常的肝右动脉（aberrant right hepatic artery, Ab. RHA）从肠系膜上动脉发出（superior mesenteric artery, SMA）；异常的肝左动脉（aberrant left hepatic artery, Ab. LHA）从胃左动脉（left gastric artery, LGA）发出。图表中也列出了肝总动脉（common hepatic artery, CHA）、脾动脉（splenic artery, SA）和胰十二指肠下动脉（inferior pancreaticoduodenal artery, IPDA）。打开胆囊底部，沿胆囊管及胆总管分离。



图 8.1.3.4 Kocher 手法暴露十二指肠后面及胰头，同时暴露肝下腔静脉及腹主动脉。胆总管已在远端结扎。可见一异常的肝右动脉从肠系膜上动脉发出。结扎胃十二指肠动脉及胃左动脉。从鼻胆管注入抗生素及抗真菌药物冲洗十二指肠第二段。

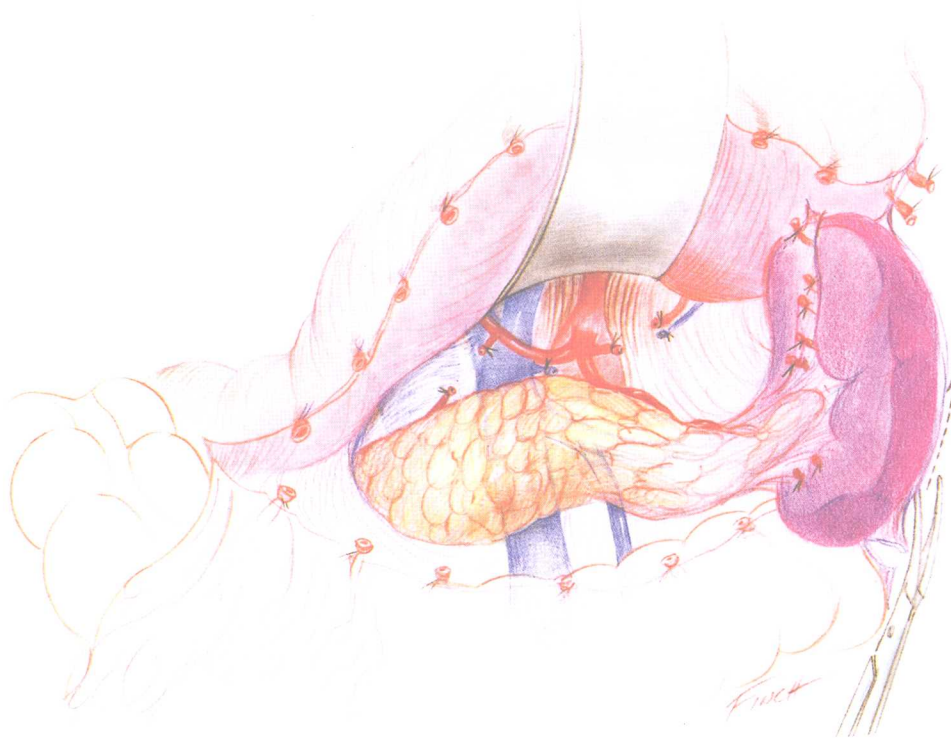


图 8.1.3.5 分离胰腺体尾部，分离并结扎所有的胃短静脉，分离并结扎胃十二指肠动脉、胃左动脉及冠状静脉。向上推开胃，向下推开横结肠，将脾与腹腔后壁分离。

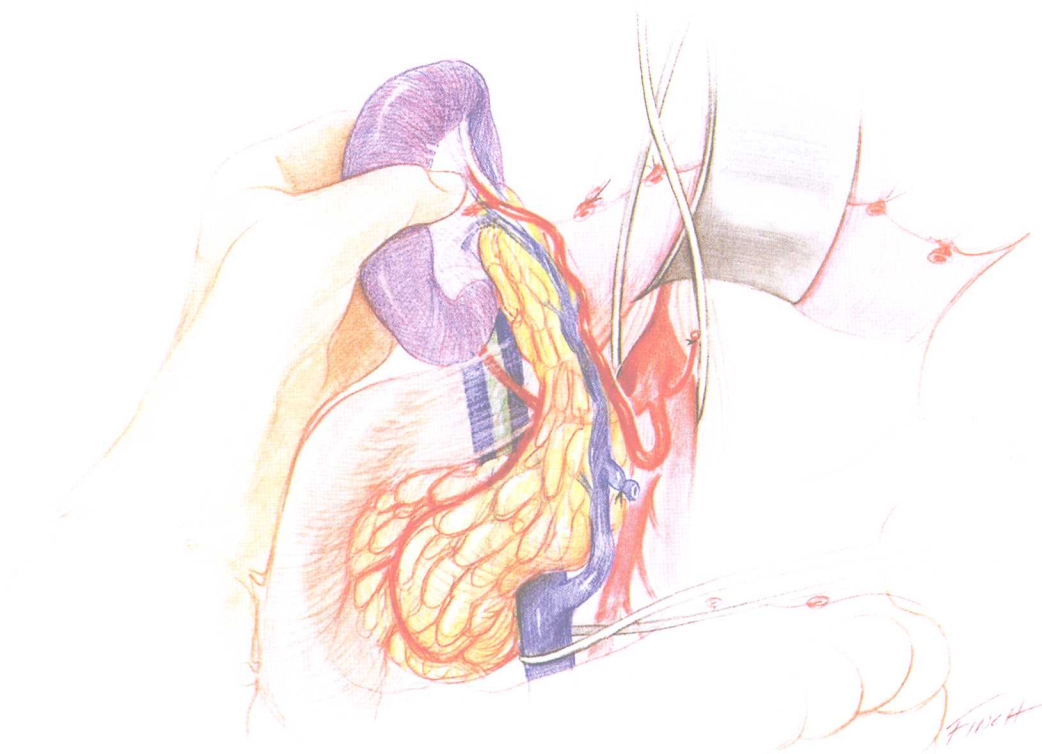


图 8.1.3.6 牵开胰体尾部，这时脾已完全牵开，并可作为一个把持物，这样就可以分离胰体尾的后部。

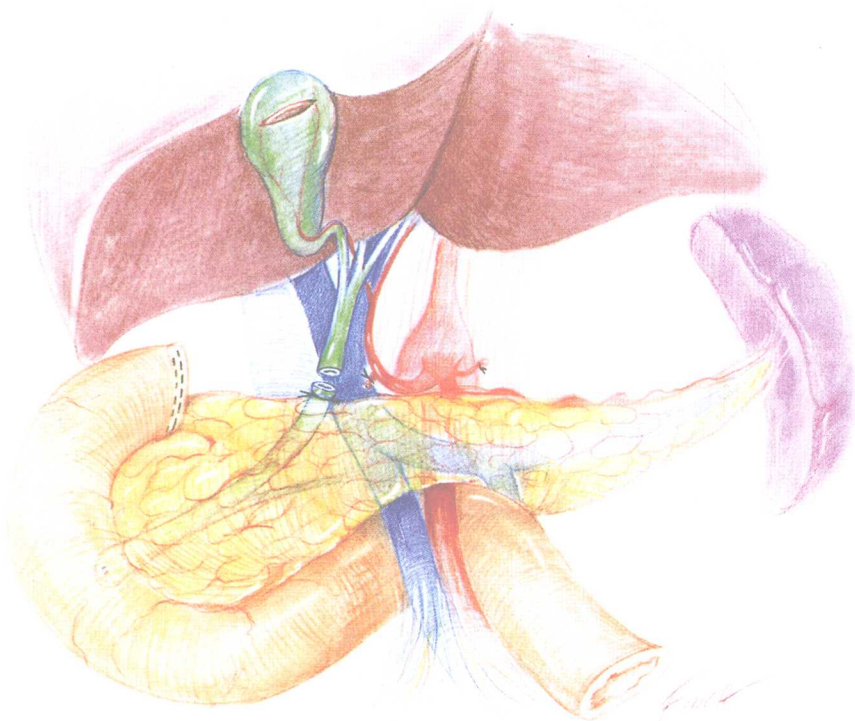


图 8.1.3.7 暴露整个胰腺。紧贴幽门下方，结扎十二指肠近端。在胰腺侧，胆管及胃十二指肠动脉已经被结扎。所有的血管（腹腔干、肠系膜上动脉、门静脉及肠系膜上静脉）均暴露。



图 8.1.3.8 腹主动脉及门静脉的灌注。腹主动脉下部已经被横断，肾以下的腹主动脉在髂动脉分叉部分别结扎。将一导管从肾下腹主动脉向上插入。再将一导管从肠系膜下静脉（inferior mesenteric vein, IMV）插入，直达门静脉。在右心房水平，膈肌以上分离肝上下腔静脉。近端十二指肠已经被结扎，保留肠系膜根部。

通过 IMV
向门静脉
插管

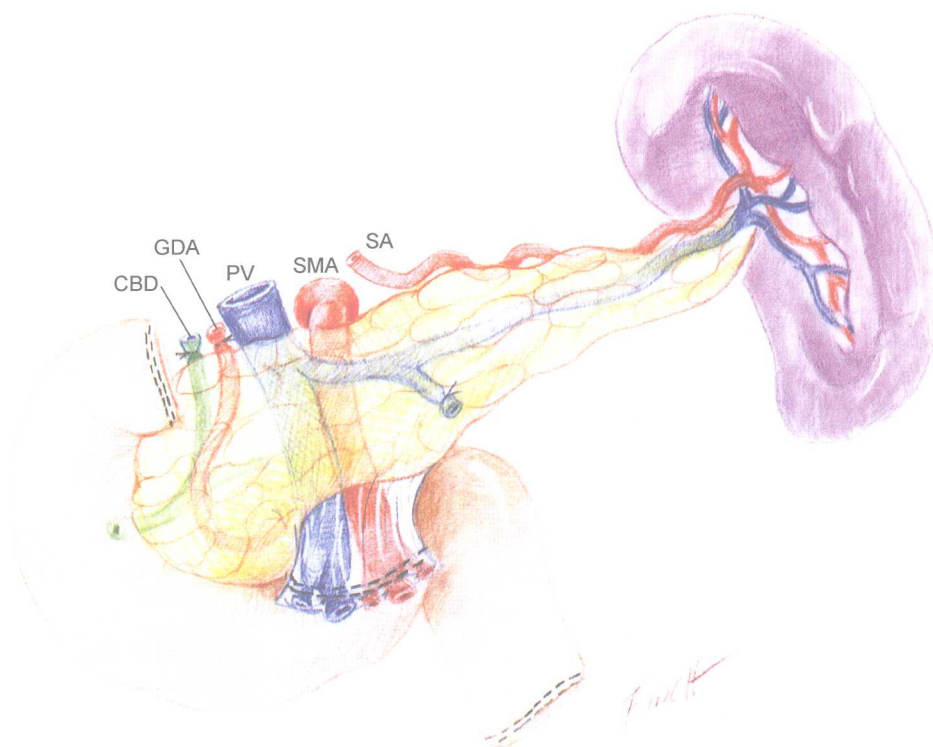


图 8.1.3.9 修整后胰腺前面观。在肠系膜根部及远近端十二指肠残端可见结扎线。在胰腺上缘结扎胆总管 (common bile duct, CBD) 及胃十二指肠动脉 (gastroduodenal artery, GDA)。近端肠系膜上动脉 (SMA) 的远端保留部分腹主动脉袖片。靠近腹腔干起始部剪断脾动脉 (SA), 结扎肠系膜下静脉。脾与胰腺紧密相连。可见门静脉 (PV)。



图 8.1.3.10 修整后胰腺前面观。在肠系膜根部及远近端十二指肠残端可见结扎线。在胰腺上缘结扎胆总管 (CBD), 将肠系膜上动脉及腹腔干进行卡莱尔 (Carrel) 修补。结扎肝固有动脉 (PHA), 可见肝总动脉 (CHA) 及胃十二指肠动脉 (GDA)。脾与胰腺紧密相连。

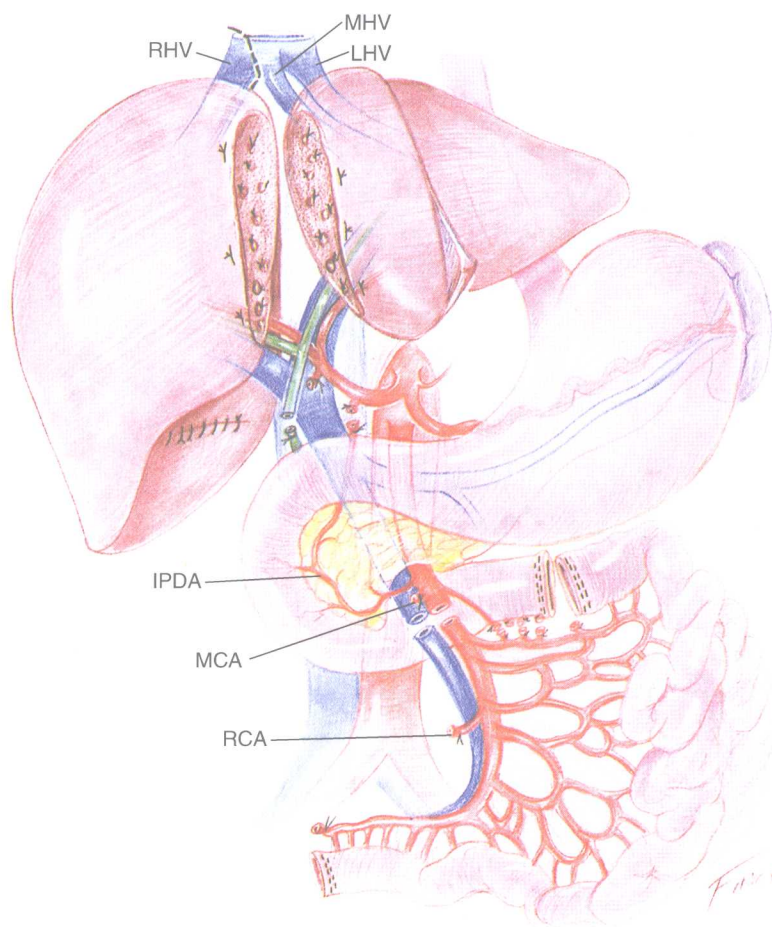


图 8.1.3.11 同时进行胰腺、肝原位劈离和小肠的切取。原位分离肠系膜上血管。肠系膜上动脉近端[与胰十二指肠上动脉 (IPDA)] 的起始部与胰腺一同保留。分离和结扎结肠中动脉 (middle colic artery, MCA) (通常把第一空肠动脉定义为结肠中动脉)。为小肠分离, 将其他空肠血管分支与远端结肠上动脉向左侧推离, 分离结扎右结肠动脉 (right colic artery, RCA)。在结扎肠系膜上动脉的水平结扎肠系膜上静脉。在劈离式肝切取时, 行标准的肝左右叶分离。同肝左叶一起保留下腔静脉。在肝右叶保留肝右静脉 (right hepatic vein, RHV), 在肝左叶保留肝中静脉 (middle hepatic vein, MHV) 及肝左静脉 (left hepatic vein, LHV)。

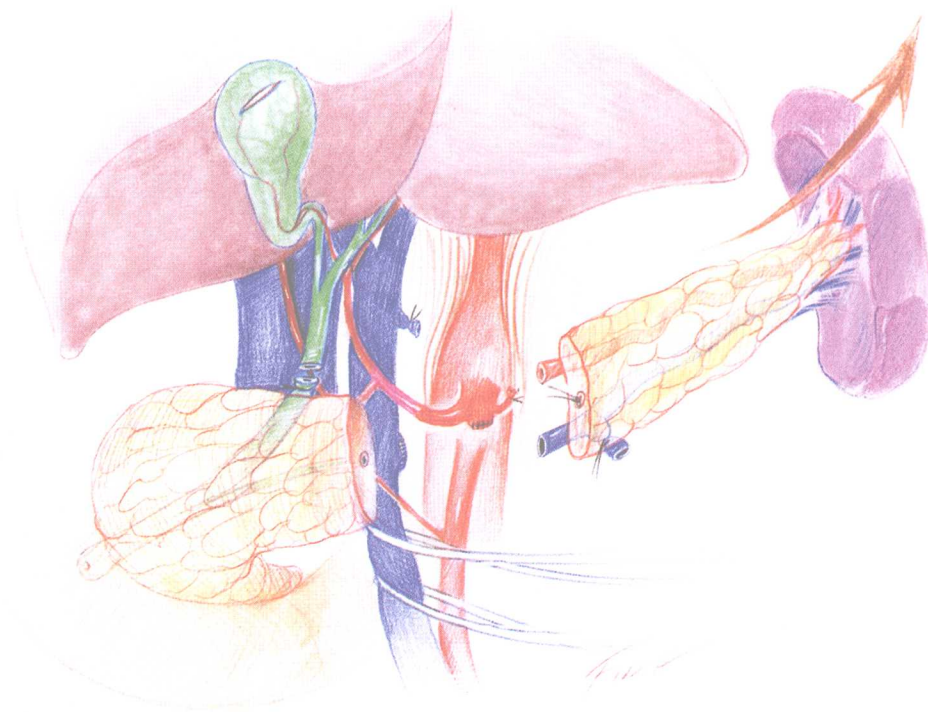


图 8.1.3.12 尸体节段胰腺的切取, 在门静脉上方横断胰腺颈部, 远端胰腺连同脾动静脉一并切除移出。胰管可用单纯丝线缝合。结扎肠系膜下静脉。脾仍然保留。

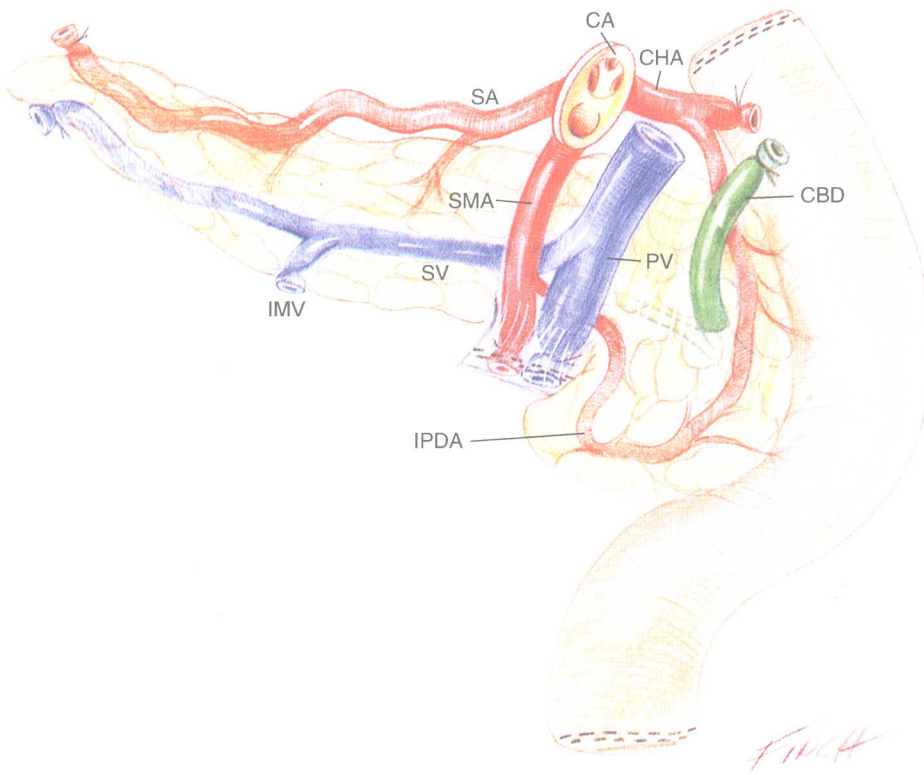


图 8.1.3.13 (A) 卡莱尔 (Carrel) 主动脉吻合术后的胰腺后面观：包括肠系膜上动脉 (SMA)、腹腔干 (CA) 和脾动脉 (SA)。显示肝总动脉 (CHA)、胰十二指肠下动脉 (IPDA)、门静脉 (PV)、脾静脉 (SV) 和胆总管 (CBD)。

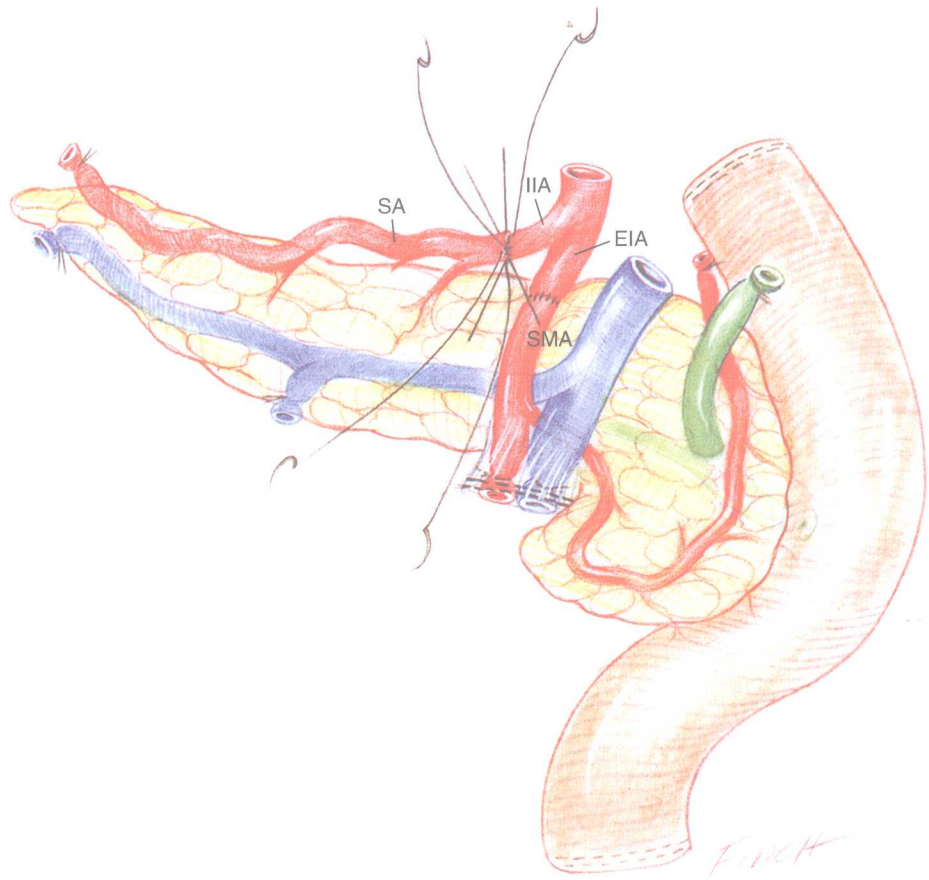


图 8.1.3.13 (B) Y 型重建后的胰腺后面观，髂外动脉 (EIA) 与肠系膜上动脉 (SMA) 端端吻合，髂内动脉 (IIA) 与脾动脉 (SA) 端端吻合。