

## 吻合器痔上黏膜钉合术的临床应用现状与反思

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江苏省“十二五”中医药重点学科基金资助项目, No. JS1301

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收稿日期: 2015-01-14 修回日期: 2015-03-11

接受日期: 2015-03-18 在线出版日期: 2015-05-18

### Clinical application of procedure for prolapse and hemorrhoids

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Supported by: Key Subject of Chinese Medicine of Jiangsu Province of China, No. JS1301

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Received: 2015-01-14 Revised: 2015-03-11

Accepted: 2015-03-18 Published online: 2015-05-18

### Abstract

As the sliding anal cushion theory is widely accepted, the procedure for prolapse and

hemorrhoids (PPH) has been applied all over the world. PPH mainly involves restoring the normal anatomy of the anal canal by circular excision of the mucosa above the hemorrhoids. Therefore, the blood supply is partially blocked so that hemorrhoids will gradually shrink. PPH has many advantages such as rapid rehabilitation, minimal invasiveness, and good short-term outcome (early resumption, less rectal bleeding and postoperative pain). However, many retrospective studies and meta-analyses indicate that, compared with the traditional surgery, PPH still has a number of deficiencies, including relatively high costs, high rates of relapse in a long term and so on. This review discusses the strategies, postoperative complications and clinical application of PPH.

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Key Words: Hemorrhoids; Procedure for prolapse and hemorrhoids; Sliding anal cushion theory

Li YR, Gu YF, Chen YQ, Zhu P. Clinical application of procedure for prolapse and hemorrhoids. *Shijie Huaren Xiaohua Zazhi* 2015; 23(14): 2245-2249 URL: <http://www.wjgnet.com/1009-3079/23/2245.asp> DOI: <http://dx.doi.org/10.11569/wcjd.v23.i14.2245>

### 摘要

随着肛垫滑动学说被广泛接受, 痔上黏膜钉合术(procedure for prolapse and hemorrhoids, PPH)在世界各地得到广泛的应用。PPH的核心技术是通过环形切除痔核上方一圈黏膜, 悬吊肛垫, 恢复肛管黏膜正常解剖结构, 阻断部分痔上部分血流供应, 使痔核逐渐萎缩。尽管PPH顺应现代快速康复的微创化理念,

### 背景资料

我国自2000年由姚礼庆教授引进并完成国内第1例痔上黏膜钉合术(procedure for prolapse and hemorrhoids, PPH)手术, 目前该微创手术已在临床应用达15年。

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## ■ 研发前沿

目前针对这项手术的众多研究证明其微创化治疗的特点, 但与传统手术相比, 远期复发率、手术费用等问题尚待解决。

且短期疗效显著(出血少、术后痛苦轻和恢复快), 并有望成为“一日手术”。但随后更多的回顾性研究和荟萃分析表明, 与传统手术相比, 仍存在一些不足, 例如费用较高, 远期复发率较高等。本文主要就PPH在临床的应用现状、术后并发症和相应对策进行相关探讨, 以便为临床更好地应用PPH治疗痔病提供参考。

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关键词: 痔; 痔上黏膜钉合术; 肛垫滑动学说

**核心提示:** 痔上黏膜钉合术(procedure for prolapse and hemorrhoids, PPH)是治疗痔病的微创手术之一, 具有短期疗效显著优势, 但远期疗效欠佳的。通过对其适应证重新界定、技术的改良、附加其他手术有望为临床更好地应用PPH治疗痔病。

李悠然, 谷云飞, 陈昌岐, 竺平. 吻合器痔上黏膜钉合术的临床应用现状与反思. 世界华人消化杂志 2015; 23(14): 2245-2249  
URL: <http://www.wjgnet.com/1009-3079/23/2245.asp> DOI: <http://dx.doi.org/10.11569/wjcd.v23.i14.2245>

## 0 引言

痔是结直肠外科的常见病, 也是多发病。在我国素有“十人九痔”之说, 可见其普遍性。在西方世界, 其发病率<sup>[1,2]</sup>约4%-10%。自1998年Longo<sup>[3]</sup>在罗马国际肛肠会议上报道吻合器痔上黏膜钉合术(procedure for prolapse and hemorrhoids, PPH)后, 以PPH为代表的痔微创手术在世界各地得到迅猛的发展, 并兴起21世纪痔治疗理念的更新。PPH的核心技术<sup>[4,5]</sup>是通过切除痔核上方一圈黏膜, 悬吊肛垫, 恢复肛管黏膜正常解剖结构, 阻断部分痔上部分血流供应, 使痔核逐渐萎缩。本文就PPH的治疗现状、术后并发症及其所面临的问题和相应对策进行讨论。

## 1 PPH在国内外的临床应用现状

早期来自英国<sup>[6]</sup>的一项荟萃分析(共1077例患者)表明PPH相对于传统手术, 术后复发率(最短随访6 mo, 最长随访37 mo)较高, 因此, 有学者认为尽管PPH目前在临床应用广泛, 且在短期疗效上有一定的优势, 但其较高的复发率将限制这项技术的发展。随后来自澳大利亚<sup>[7]</sup>的一项系统评价(包括25项随机对照实验, 共

1918例患者, 最长随访时间达62 mo)显示, 与传统痔切除术相比较, 尽管PPH具有术后疼痛轻、住院时间短等优点, 在术后并发症和早期复发率(术后6 mo内)的差异无统计学意义, 但远期复发率(术后1年以上)较高。随着PPH在临床的普及推广, 更多的大样本数据研究结果相继报道。来自意大利<sup>[8]</sup>的一项单中心系统回顾报道(共400例患者)肯定了PPH的安全性和患者满意度高的优点, 但认为其昂贵费用阻碍了其进一步推广。欧美<sup>[9-14]</sup>的多项系统回顾及荟萃分析显示尽管PPH具有术后疼痛轻、术后恢复快、患者满意度高的优点, 但其术后复发率较高。由于大部分欧美文献回顾对PPH的反对意见较多, 欧美许多医院的PPH使用率有下降趋势。以意大利<sup>[15]</sup>和英国<sup>[16]</sup>为例, 意大利结直肠外科协会成员的PPH使用率在3年内由26%降至20%。2008-2009年英国共有23000例患者接受手术治疗, 但仅2285例(10%)患者采纳PPH的手术方案。

在我国, 目前已有30多个省市开展PPH技术, 超过3万例患者<sup>[17]</sup>成功接受这项微创技术。一项关于III-IV期单中心回顾性研究<sup>[18]</sup>显示PPH总并发症率14.61%(65/445), 其中12例为痔复发。该研究者认为由于该中心通过将PPH吻合口位置调整至齿线上2.5-3.0 cm, 切除了部分病变痔组织以及部分病例联合外痔切除, 故其术后复发率明显低于国内外同行报道。2013年《中华外科杂志》刊登了一项综合国内外生物医学数据库关于PPH近远期疗效及安全性的Meta分析<sup>[19]</sup>, 其结果表明PPH近期疗效(手术时间、住院时间、恢复正常活动时间、术后疼痛)优于传统外剥内扎术, 远期疗效方面, 尽管患者满意度高, 但复发脱垂率和再次手术几率高于传统外剥内扎术。

## 2 PPH的术后并发症情况

PPH的术后并发症<sup>[20-27]</sup>主要包括出血、疼痛、尿潴留、复发、痔核脱垂、急便感、直肠憩室、吻合口狭窄、直肠阴道漏、局部感染等。其中直肠穿孔、盆腔感染、直肠憩室、直肠阴道漏等在临床上罕见, 偶有报道<sup>[28-31]</sup>。一项关于PPH和传统外剥内扎术的Meta分析<sup>[19]</sup>显示在术后狭窄、肛门失禁、皮赘发生率方面无统计学差异。部分地区的医疗机构的报告及相关的系统回顾显示PPH术后并发症的几率大

## ■ 相关报道

PPH手术对于因直肠前突等原因引起的出口梗阻型便秘的近期疗效尚可。

约在5%-20%<sup>[32-34]</sup>. 2010年美国关于痔诊断和治疗的指南<sup>[35]</sup>认为PPH与传统手术的总并发症无明显差异. 只要术者具有胃肠道吻合的操作经验, 遵循规范的操作, 小心处理吻合附近可能出现的出血, 一般不会出现严重的并发症.

出血是外科术后最常见的并发症之一. PPH<sup>[4,36]</sup>治疗II-IV期(没有血栓形成)的内痔的术后出血率在1%-11%之间, 但极少情况需要在麻醉下进行手术干预治疗. 一项荟萃分析<sup>[36]</sup>(包括15项前瞻性随机试验)提示IV期的内痔采用PPH治疗, 术后出血的概率较高.

术后疼痛轻微是PPH的优势体现. 一项对比PPH和传统痔切除的荟萃分析<sup>[10]</sup>(27项随机试验, 2279例患者)验证了这一点. 但不可否认临床仍然存在原因不明的术后慢性肛门直肠疼痛的情况<sup>[23]</sup>.

里急后重和急便感在PPH<sup>[37]</sup>的术后发生率高于传统痔切除术. 文献<sup>[38-40]</sup>表明IV期内痔伴直肠便意感觉容量小或直肠顺应性数值低的患者采取PPH治疗, 术后发生里急后重和急便感的几率较高.

### 3 PPH在临床应用所面临的问题及相关对策

综合上述反对PPH意见, PPH与传统手术相比, 主要存在3个问题: (1)治疗上优势体现在近期疗效, 远期有复发脱垂和再次手术的风险; (2)对于患者而言, 治疗费用相对传统外剥内扎术较高; (3)尽管在总的并发症发生率上, PPH与传统外剥内扎术无明显差异, 但PPH独有的几种并发症(如直肠阴道瘘、直肠穿孔、骨盆败血症等)均有报道, 这些现象提示了这项技术潜在的危险性. 随着PPH在临床上应用的推广, 上述问题也引起国内外许多学者重视并试图解决这些问题. 现总结如下.

**3.1 适应证的重新界定** 有许多文献<sup>[41,42]</sup>报道PPH治疗处于IV期和局部血栓形成的内痔的术后并发症和复发几率相对较高, 同时有研究<sup>[43]</sup>验证了无论是PPH还是多普勒引导下痔动脉结扎术都不能完全中断直肠上动脉的所有分支. 基于IV期内痔术后出血相对较高的事实和痔的动脉供应血管经肠壁由外向内垂直进入肌层而不是经黏膜由上向下走行以及直肠下动脉和肛门动脉的分支也参与供应痔核的解剖学认识, Longo通过切除黏膜从而切断直肠上动脉的终末分支并不能完全阻断痔的血管

供应. 因此, PPH在本质上不能减少痔的血管供应. 另外, 基于肛垫滑动<sup>[44]</sup>学说, 痔病患者的肛垫组织都有明显的病理改变(例如胶原纤维和弹性纤维的退行性改变), IV期的内痔的病理改变不可逆, Treitz肌和弹力纤维大多疏松、断裂, 加之IV期痔核本体较大, 所以PPH对于IV期的内痔无法维持长时间的“悬吊”. 有研究者<sup>[45]</sup>通过对PPH术后进行长期随访(平均时间为8年)发现术后复发率与术前内痔的分期程度存在相关性, 间接验证了上述观点.

基于以上情况, PPH的适应证应该重新界定为II-III期的内痔, 而不是III-IV期的内痔.

**3.2 针对PPH操作技术的改良** 国内部分学者认为PPH未对病理性肛垫进行处理是导致PPH术后复发较高的原因, 因此, 他们在总结自身和新加坡地区实践的基础上, 将PPH的荷包缝合高度由原先距齿线的5-8 cm调整为2-3 cm, 短期疗效明显提高, 但疤痕体质可能是这项改良技术的禁忌证<sup>[46]</sup>. 结果表明通过降低荷包的缝合位置切除部分痔核组织能提高近期疗效, 降低肠穿孔、盆腔感染等严重并发症. 国外一项关于PPH疗效的相关性研究<sup>[47]</sup>表明PPH疗效与切下的样本厚度、荷包高度存在相关性, 提示降低荷包缝合高度和环切至黏膜肌层能够提高PPH疗效.

**3.3 在PPH的基础附加其他手术** 荷兰<sup>[48]</sup>的一项回顾性研究发现首次采取橡皮圈套扎治疗, 二次手术再由有丰富PPH经验的外科医师进行PPH治疗(需要环切至黏膜肌层), 可以有效地减少术后的复发和痔核的再度脱垂. 我国学者分别对中文和英文报道的PPH进行荟萃分析<sup>[49]</sup>发现PPH英文报道的PPH术后复发和术后皮赘的几率远高于中文报道的文献, 并认为这与中国普遍在PPH术后追加手术有关. 欧美研究<sup>[50]</sup>证实了其开展的PPH术后皮赘远高于传统手术. 2010年美国结直肠外科医师协会标准化工作委员会起草的痔诊断和治疗指南<sup>[35]</sup>也指出单独采用PPH不适用于伴有外痔较大或伴血栓的混合痔.

因此, 针对痔的严重程度采取个体化治疗的原则. 例如对于外痔较大的患者, 可以在PPH的基础上追加外痔切除, 可以巩固现有疗效, 降低远期复发.

PPH在临床的应用已有15年, 尽管存在一些不足, 但其手术时间短、术后疼痛轻微、恢复时间短的优势是符合现代快速康复的微创理念. 相信随着对PPH改进后的更多高级别循

#### ■ 创新盘点

本文从PPH手术临床国内外现状、面临的问题及相关对策进行综述, 指出了其现存的优势和不足, 为该手术更好地应用于临床实践提供参考.

#### ■ 应用要点

本文指出重新界定适应证、手术改良以及必要时附加其他手术, 有利于改善PPH现存问题和临床的推广应用.



## ■ 名词解释

Treitz肌: 痔的黏膜下层平滑肌, 起于联合纵肌和内括约肌。

证医学证据的出现, 能给这项技术带来长足的进步, 从而造福广大患者。

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#### 同行评价

本文总结分析了吻合器PPH的国内外临床研究结果, 并对相应对策进行相关探讨。

编辑: 郭鹏 电编: 闫晋利





Published by **Baishideng Publishing Group Inc**  
8226 Regency Drive, Pleasanton,  
CA 94588, USA  
Fax: +1-925-223-8242  
Telephone: +1-925-223-8243  
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ISSN 1009-3079

