· 论著 ·

复发腹股沟疝手术方式的选择及临床疗效

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【摘要】 目的　探讨复发腹股沟疝手术方式的选择及临床疗效。**方法**　采用回顾性横断面研究方法。收集 2015 年 1 月至 2017 年 12 月中国科学技术大学附属第一医院暨安徽省立医院收治的 98 例复发腹股沟疝患者的临床资料；男 90 例，女 8 例；年龄为（62±16）岁，年龄范围为 18～84 岁。根据患者既往手术入路方式及对腹膜前间隙的干扰程度，复发疝缺损大小，复发疝分型及手术医师对腹腔镜疝修补手术技术掌握程度，选择复发腹股沟疝的手术方式。观察指标：（1）复发腹股沟疝情况。（2）再次手术情况。（3）随访情况。采用门诊、电话、网站 APP 方式进行随访，了解患者术后 3～7 d、1 个月、3 个月、6 个月、12 个月复发疝情况和并发症情况。随访时间截至 2018 年 12 月。正态分布的计量资料以 *Mean*±*SD* 表示，偏态分布的计量资料以 *M*（范围）表示；计数资料以绝对数表示。**结果**　（1）复发腹股沟疝情况：98 例患者腹股沟疝复发时间为 1.5 年（0.5 年，4.0 年），复发时间范围为术后 1 d 至 40.0 年；5 例术后多次复发（≥3 次）；Campanelli 复发疝分型 R1 型 47 例、R2 型 21 例、R3 型 30 例。98 例患者中，75 例既往手术采用前入路方式，其中 Bassini 修补术 26 例、Lichenstein 修补术 16 例、Shouldice 修补术 11 例、McVay 修补术 9 例、Rutkow 修补术 5 例、单纯高位结扎 4 例、Millikan 修补术 4 例，术后复发时间为 3.0 年（0.7 年，10.0 年）；23 例既往手术采用后入路方式，其中联合前入路加强腹膜前间隙 Kugel 修补术 2 例、Gilbert 修补术 1 例、Stoppa 修补术 1 例，术后复发时间为（3.2±1.6）年，腹腔镜完全腹膜外修补术（TEP）11 例、经腹腔腹膜前疝修补术（TAPP）8 例，术后复发时间为（1.5±0.9）年。（2）再次手术情况：75 例既往手术采用前入路方式患者，再次手术方式为 TAPP 62 例、Kugel 修补术 9 例、TEP 4 例；其手术时间分别为（66±25）min、（61±19）min、（70±26）min；麻醉方式为局部麻醉 1 例（行 Kugel 修补术），全身麻醉 74 例。23 例既往手术采用后入路疝修补方式患者，再次手术方式为 Lichtenstein 修补术 13 例（复发疝疝环直径<2 cm），改良网塞-平片法修补术 10 例（复发疝疝环直径≥2 cm）；其手术时间分别为（53±14）min、（58±14）min；麻醉方式为硬膜外麻醉 1 例（行 Lichtenstein 修补术），局部麻醉 2 例（行 Lichtenstein 修补术 1 例、改良网塞-平片法修补术 1 例），全身麻醉 20 例。（3）随访情况：98 例患者术后均获得随访，随访时间为 1～48 个月，中位随访时间为 18 个月。患者随访期间均无疝再次复发。98 例患者随访期间，再次手术后早期疼痛 31 例（TAPP 11 例、TEP 1 例、Kugel 修补术 5 例、Lichtenstein 修补术 7 例、改良网塞-平片法修补术 7 例），长期慢性疼痛 5 例（TAPP 1 例、Kugel 修补术 1 例、Lichtenstein 修补术 1 例、改良网塞-平片法修补术 2 例），血肿 2 例（TAPP 1 例、Lichtenstein 修补术 1 例），血清肿 3 例（TAPP 3 例）。36 例发生并发症患者经观察随访、对症支持治疗后均好转。**结论**　根据既往手术对肌耻骨孔的覆盖或干扰程度，复发疝缺损大小和分型，术者腹腔镜疝修补技术水平，选择复发腹股沟疝的手术方式，可取得良好临床疗效。

【关键词】　疝；　成人腹股沟疝；　复发；　治疗选择；　腹腔镜检查
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Selection of surgical methods for recurrent inguinal hernia and corresponding clinical efficacy

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【Abstract】 Objective　To investigate the choice of surgical methods for recurrent inguinal hernia and their corresponding clinical efficacy. **Methods**　The retrospective cross-sectional study was conducted. The clinical data of 98 patients with recurrent inguinal hernia who were admitted to the First Affiliated Hospital of University of Science and Technology of China (Anhui Provincial Hospital) between January 2015 and December 2017 were

collected. There were 90 males and 8 females, aged (62±16) years, with a range from 18 to 84 years. According to the previous surgical approaches of patients and the interference degree to the preperitoneal space, size of the defects, type of recurrent inguinal hernia, and the surgeon's mastery of laparoscopic hernia repair technology, corresponding surgical methods for recurrent inguinal hernia were selected. Observation indicators: (1) conditions of recurrent inguinal hernia; (2) conditions of reoperation; (3) follow-up. Follow-up using outpatient examiantion, telephone interview, and website APP was performed to detect the conditions of recurrent hernia and complications at 3-7 days, 1 month, 3 months, 6 months, and 12 months after operation up to December 2018. Measurement data with normal distribution were represented as *Mean*±*SD*, and measurement data with skewed distribution were represented as *M* (range). Count data were expressed as absolute numbers. **Results** (1) Conditions of recurrence inguinal hernia: the time to recurrence of inguinal hernia in 98 patients was 1.5 years (0.5 years, 4.0 years), ranging from 1 day to 40.0 years after operation. Five patients had recurrence more than 3 times. There were 47 cases classified as type R1, 21 cases as type R2, and 30 cases as type R3 according to Campanelli classification of recurrent hernias. Seventy-five of 98 patients were treated by anterior approach, including 26 undergoing Bassini repair, 16 undergoing Lichenstein repair, 11 undergoing Shouldice repair, 9 undergoing McVay repair, 5 undergoing Rutkow repair, 4 undergoing simple high ligation, and 4 undergoing Millikan repair. The time to postoperative recurrence was 3.0 years (0.7 year, 10.0 years). Twenty-three patients had been treated by posterior approach, including 2 undergoing reinforced preperitoneal Kugel repair combined with anterior approach, 1 undergoing Gilbert repair, and 1 undergoing Stoppa repair, with the time to postoperative recurrence of (3.2±1.6) years, 11 undergoing laparoscopic totally extraperitoneal prosthesis (TEP) and 8 undergoing laparoscopic transabdominal preperitoneal hernia repair (TAPP), with the time to postoperative recurrence of (1.5±0.9) years. (2) Conditions of reoperation: of the 75 patients firstly being treated by anterior approach, 62 underwent TAPP for reoperation, 9 underwent Kugel repair, and 4 underwent TEP, and the operation time was (66±25) minutes, (61±19) minutes, (70±26) minutes, respectively. Local anesthesia was used in 1 case with Kugel operation and general anesthesia was used in 74 cases. Of the 23 patients firstly being treated with posterior approach herniorrhaphy, 13 with hernia ring diameter<2 cm were treated with Lichtenstein repair and 10 with hernia ring diameter ≥2 cm were treated with modified mesh patch repair for reoperation. The operation time was (53±14) minutes and (58±14) minutes, respectively. There was 1 case of epidural anesthesia (Lichtenstein repair), 2 cases of local anesthesia (1 case of Lichtenstein repair and 1 case of modified mesh repair), and 20 cases of general anesthesia. (3) Follow-up: all the 98 patients were followed up for 1-48 months, with a median follow-up time of 18 months. There was no recurrent hernia during the follow-up. During the follow-up, 31 patients had early postoperative pain, including 11 with TAPP, 1 with TEP, 5 with Kugel repair, 7 with Lichtenstein repair, 7 with modified mesh patch repair, and 5 patients had chronic pain, including 1 with TAPP, 1 with Kugel repair, 1 with Lichtenstein repair, 2 with modified mesh repair, 2 patients had hematoma, including 1 with TAPP, 1 with Lichtenstein repair, 3 with TAPP had effusion. Thirty-six patients with complications were improved after follow-up and symptomatic and supportive treatment. **Conclusion** The reasonable decision on surgical methods for recurrent inguinal hernia depends on whether the previous operation interferes with the preperitoneal space, defect size and classification, and surgeon's skill of laparoscopic hernia repair, which can achieve good efficacy.

【**Key words**】 Hernia; Inguinal hernia, adult; Recurrence; Laparoscopy; Choice of treatment
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随着成人腹股沟疝修补术多种手术方式的普及和推广,复发性成人腹股沟疝的复杂类型和手术治疗难度也不断增加。目前大部分医师主要根据个人临床经验,治疗复发性成人腹股沟疝,尚无具有循证医学证据支持的治疗策略。本研究回顾性分析 2015 年 1 月至 2017 年 12 月我科收治的 98 例复发腹股沟疝患者的临床资料,探讨复发腹股沟疝手术方式的选择及临床疗效。

1 资料与方法

1.1 一般资料

采用回顾性横断面研究方法。收集 98 例复发腹股沟疝患者的临床资料,男 90 例,女 8 例;年龄为(62±16)岁,年龄范围为 18~84 岁。本研究符合《赫尔辛基宣言》的要求。患者及家属均签署手术知情同意书。

1.2 纳入标准和排除标准

纳入标准:(1)年龄≥18 岁。(2)既往有腹股沟疝高位结扎、组织修补或补片修补术史。(3)再次发生手术同侧腹股沟疝。(4)美国麻醉医师协会(ASA)分级<Ⅳ级。(5)BMI≤35 kg/m^2。

排除标准:(1)复发疝并发嵌顿、绞窄或感染。(2)合并妊娠、肝硬化腹腔积液、生殖泌尿系统肿瘤。(3)ASA 分级≥Ⅳ级。(4)BMI>35 kg/m^2。

(5)同期前、后双入路术后复发腹股沟疝。

1.3 手术方法

根据患者既往手术入路方式及对腹膜前间隙的干扰程度(前入路为腹股沟区切口、修补术未覆盖肌耻骨孔,后入路为非腹股沟区切口、修补术覆盖肌耻骨孔),复发疝缺损大小,复发疝分型及手术医师对腹腔镜疝修补手术技术掌握程度[A 类,腹腔镜疝修补技术成熟,行经腹腔腹膜前疝修补术(laparoscopic transabdominal preperitoneal hernia repair, TAPP)例数>20 例;B 类,腹腔镜疝修补技术一般,行 TAPP 例数 1~20 例;C 类,无腹腔镜疝修补技术经验,行 TAPP 例数 0 例],选择复发腹股沟疝的手术方式。TAPP、腹腔镜完全腹膜外修补术(totally extraperitoneal prosthesis, TEP)、Kugel 修补术、Lichtenstein 修补术、改良网塞-平片法修补术具体操作步骤参照文献[1-5]。

1.4 观察指标和评价标准

观察指标:(1)复发腹股沟疝情况包括腹股沟疝总体复发时间、多次复发情况、Campanelli 复发疝分型、既往手术方式及各自复发时间。(2)再次手术情况:再次手术方式、手术时间、麻醉方式。(3)随访情况:获得随访的患者例数、随访时间、疝再次复发情况、术后并发症情况。

评价标准:(1)根据《成人腹股沟疝诊疗指南(2018 年版)》,确定既往手术方式和疝复发时间[6]。(2)参照文献[7-8]的方法行 Campanelli 复发腹股沟疝分型。

1.5 随访

采用门诊、电话、网站 APP 方式进行随访,了解患者术后 3~7 d、1 个月、3 个月、6 个月、12 个月复发疝情况和并发症情况。随访时间截至 2018 年 12 月。

1.6 统计学分析

应用 SPSS 17.0 统计软件进行分析。正态分布的计量资料以 *Mean*±*SD* 表示,偏态分布的计量资料以 *M*(范围)表示;计数资料以绝对数表示。

2 结果

2.1 复发腹股沟疝情况

98 例患者腹股沟疝复发时间为 1.5 年(0.5 年,4.0 年),复发时间范围为术后 1 d 至 40.0 年;5 例术后多次复发(≥3 次);Campanelli 复发疝分型 R1 型 47 例、R2 型 21 例、R3 型 30 例。98 例患者中,75 例既往手术采用前入路方式,其中 Bassini 修补术 26 例、Lichenstein 修补术 16 例、Shouldice 修补术 11 例、McVay 修补术 9 例、Rutkow 修补术 5 例、单纯高位结扎 4 例、Millikan 修补术 4 例,术后复发时间为 3.0 年(0.7 年,10.0 年);23 例既往手术采用后入路方式,其中联合前入路加强腹膜前间隙 Kugel 修补术 2 例、Gilbert 修补术 1 例、Stoppa 修补术 1 例,术后复发时间为(3.2±1.6)年,TEP 11 例、TAPP 8 例,术后复发时间为(1.5±0.9)年。

2.2 再次手术情况

75 例既往手术采用前入路方式患者,再次手术方式为 TAPP 62 例、Kugel 修补术 9 例、TEP 4 例;其手术时间分别为(66±25) min、(61±19) min、(70±26) min;麻醉方式为局部麻醉 1 例(行 Kugel 修补术),全身麻醉 74 例。23 例既往手术采用后入路疝修补方式患者,再次手术方式为 Lichtenstein 修补术 13 例(复发疝疝环直径<2 cm)、改良网塞-平片法修补术 10 例(复发疝疝环直径≥2 cm);其手术时间分别为(53±14) min、(58±14) min;麻醉方式为硬膜外麻醉 1 例(行 Lichtenstein 修补术),局部麻醉 2 例(行 Lichtenstein 修补术 1 例、改良网塞-平片法修补术1 例),全身麻醉 20 例。

2.3 随访情况

98 例患者术后均获得随访,随访时间为 1~48 个月,中位随访时间为 18 个月。患者随访期间均无疝再次复发。98 例患者随访期间,再次手术后早期疼痛 31 例(TAPP 11 例、TEP 1 例、Kugel 修补术 5 例、Lichtenstein 修补术 7 例、改良网塞-平片法修补术 7 例),长期慢性疼痛 5 例(TAPP 1 例、Kugel 修补术 1 例、Lichtenstein 修补术 1 例、改良网塞-平片法修补术 2 例),血肿 2 例(TAPP 1 例、Lichtenstein 修补术 1 例),血清肿 3 例(TAPP 3 例)。36 例发生并发症患者经观察随访、对症支持治疗后均好转。

3 讨论

3.1 复发腹股沟疝的治疗现状

成人腹股沟疝复发后再次手术极具挑战性。早期研究不考虑患者既往手术方式而随机选择手术方式,随访 3~5 年的研究结果显示:TAPP 术后再次复发率为 1.0%~19.0%、TEP 为 1.3%~7.7%、Lichenstein 修补术为 15.6%~18.0%、Nyhus 修补术为 1.7%[9-12]。既往行前入路组织修补术,术后复发疝患者再次手术行 TAPP 和 TEP,术后未再发生复发疝;再次行 Lichtenstein 修补术,术后疝复发率为 6.4%[13-15]。一项 Meta 分析结果显示:复发腹股沟疝腹腔镜修补术比 Lichtenstein 修补术具有更低的术后疼痛发生

率和更短的术后康复时间[16]。一项大宗病例的研究结果显示:既往手术方式为组织修补术、开放补片修补术、腹腔镜疝修补术患者,疝复发后均采用开放补片疝修补术,再次手术 1 年后的疝复发率分别为 1.7%、4.6%、1.1%[16]。Lichtenstein 修补术后复发疝,再次行腹腔镜和 Lichtenstein 修补术后疝再复发率分别为 3.1%和 8.7%;腹腔镜修补术后复发疝再次行腹腔镜和 Lichtenstein 修补术后疝再复发率分别为 5.9%和 3.5%[17]。因此,成人腹股沟疝术后复发后再次手术目的与既往手术一致:避免术后疝复发、减少术后慢性疼痛、重塑腹壁组织和功能、恢复患者正常生活。

3.2　复发腹股沟疝的特点

肌耻骨孔区域的薄弱或缺损、既往手术补片覆盖不全是腹股沟疝发病和复发的主要原因[18-20]。因此,目前大部分腹股沟复发疝修补术是加强肌耻骨孔的修补,不同手术方式仅是进入肌耻骨孔区域的路径和方式不同,补片加强和完全覆盖该区域的手术方式可明显降低疝术后复发率,补片大小和正确放置是决定手术成功的关键因素[21]。已有的指南建议:疝补片大小为 10 cm×15 cm,覆盖整个肌耻骨孔,可根据疝环直径、补片大小或强度等选择是否固定补片,恰当的固定材料和方法可避免局部神经血管损伤,减少术后疼痛[1]。腹股沟疝术后≤2 年疝复发的常见原因包括补片放置不规范,补片太小不能覆盖肌耻骨孔等;术后>2 年疝复发与腹内压增高,胶原代谢持续异常导致的腹膜前间隙缺损范围变大,或补片皱缩、移位有关[22]。受学习曲线的影响,疝复发主要集中在术后 2 年内[23]。

3.3　降低复发腹股沟疝修补术后疝再复发的措施

传统腹股沟疝补片修补术大部分为前入路加强腹股沟管后壁,由于腹膜前间隙未受到明显影响,此类术后复发疝患者首选腹腔镜疝修补术治疗[24-26]。复发疝环直径是判断疝缺损大小的重要依据之一。当疝囊颈直径>2 cm 时,表明肌耻骨孔区域有较大缺损,且常同时合并新发腹股沟疝。此类复发疝患者常以 TAPP 为首选治疗方案;TAPP 不仅可以全面探查新发或隐匿的腹股沟疝,还可准确显示缺损大小,有效放置和固定补片。TAPP 还可在完全直视下安全解剖精索,避免损伤其周围血管和神经。因此,复发腹股沟斜疝患者也建议首选 TAPP 治疗。疝囊颈直径≤2 cm 或复发股疝和直疝,如医师腹腔镜疝修补技术熟练,则首选 TEP 治疗。复发腹股沟斜疝尤其是既往使用网塞进行修补的患者,由于腹股沟管内环、部分腹横筋膜与网塞粘连融合致密,TEP 常无法完整显示和有效解剖精索[27]。因此,网塞-平片修补术后复发腹股沟斜疝一般不采用 TEP 进行修补。

既往行前入路或后入路方式进行腹膜前间隙加强修补术后复发疝患者,既往手术放置的补片可导致腹膜前间隙难以充分解剖分离。因此,首选加强腹股沟管后壁修补为主的治疗方案。疝囊颈直径≤2 cm,则首选 Lichtenstein 修补术。疝囊颈直径>2 cm,表示腹壁缺损较大,单纯补片修补可能无法完全覆盖腹股沟内环,一般采用网塞-平片修补术。该手术方式不需广泛分离既往肌耻骨孔补片覆盖的粘连区域,仅在缺损区域游离腹膜前间隙,将网塞类补片作平片样展开于局部缺损的肌耻骨孔区,腹股沟管后壁再置入平片加强。本研究中多次疝复发患者,曾反复交替采用 Bassini、Lichtenstein、单纯网塞法等修补术,考虑该类患者胶原代谢疾病可能[28-29]。因此,肌耻骨孔采用整体大张补片覆盖,再次行 TAPP 且使用重量级补片成功完成修补治疗,临床疗效满意。本研究根据上述治疗原则,制订合理复发腹股沟疝再次手术方式,均取得满意临床疗效,随访期间未再次复发。

3.4　复发腹股沟疝术后疼痛

腹股沟疝术后急慢性疼痛发生率为 0~53%,影响患者日常活动的术后疼痛的发生率约为 10%[30-31]。目前已明确与腹股沟疝术后疼痛相关的因素包括患者的性别、年龄、术前疼痛、术前慢性疼痛、术后剧痛、术中修补方式、补片固定、术中神经损伤、复发疝再手术等[32]。且有研究结果显示:腹股沟疝复发再次手术后慢性中、重度疼痛的发生率比首次手术增加 4 倍[33]。腹股沟疝术后复发和疼痛严重影响患者的生命质量,是临床医师最为关注的问题。

再次手术治疗复发腹股沟疝的最终目的是避免或减少术后疝复发、同时尽可能减少术后早期疼痛或慢性疼痛等并发症的发生。本研究结果显示:复发腹股沟疝术后行改良网塞-平片修补术后疼痛发生比例最高,其次为 Kugel 修补术和 Lichtenstein 修补术,行 TAPP 和 TEP 术后疼痛发生比例明显减少。这与已有的文献报道基本一致[34]。

综上,根据患者既往手术对肌耻骨孔的覆盖或干扰程度,复发疝缺损大小和分型,术者腹腔镜疝修补技术水平,选择复发腹股沟疝的手术方式,可取得良好临床疗效。

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