

嵌顿性腹股沟疝的外科修补策略及价值分析



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【摘要】目的 分析嵌顿性腹股沟疝的临床特点、诊疗策略和手术方式等, 以提高临床医生对该疾病的认识。**方法** 回顾性分析郑州大学附属郑州中心医院胃肠、疝和腹壁外科 2021 年 6 月至 2024 年 6 月收治的嵌顿性腹股沟疝患者的临床资料, 总结其临床特点、治疗方式和预后等。**结果** 共纳入 45 例患者, 9 例手法回纳成功 (其中 1 例假性复位, 中转急诊手术), 其余 36 例因回纳失败或无手法复位指征行急诊手术。37 例急诊手术患者中, 斜疝 21 例、直疝 3 例 (均为男性)、股疝 9 例 (均为女性)、闭孔疝 4 例 (均为女性)。嵌顿的疝内容物: 小肠 34 例、乙状结肠 2 例、阑尾及部分盲肠 1 例。腔镜下还纳疝内容物后行疝修补, 术毕结合缺血恢复程度, 6 例中转开腹行肠切除, 3 例腔镜探查见绞窄坏死中转开腹行坏死切除及疝修补, 1 例患者病情危重, 直接行开放组织缝合修补, 2 次手术腹腔探查证实为逆行性嵌顿疝 (Maydl 疝), 行小肠部分切除术。结合腹腔污染情况, 3 例患者使用生物补片, 33 例使用聚丙烯轻量网孔补片。手术时间为 50~130 min, 平均 70.5 min。1 例单纯组织缝合修补患者术后第 3 天死亡, 其余患者顺利出院, 住院时间为 2~26 天。术后半年、1 年、1 年半随访, 均无复发及补片相关感染。**结论** 嵌顿疝病情复杂且多变, 需结合病情制定个体化治疗方案, 手法复位可以使手术由急诊转为择期。需结合患者病情选择手术方式, 腹腔镜各方面优势明显。腹腔污染不是材料修补的禁忌证, 在符合条件下, 应优先考虑一期无张力修补, 合成补片是主要的选择, 当腹腔污染较重时生物补片更具优势, 合并修补区域腹壁软组织感染应放弃材料修补。

【关键词】 嵌顿性腹股沟疝; 手法复位; 腹腔污染; 腹腔镜; 无张力修补; 合成补片; 生物补片

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Surgical repair strategies and value analysis of incarcerated inguinal hernia

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【Abstract】Objective To analyze the clinical characteristics, diagnosis and treatment strategies, and surgical methods of incarcerated inguinal hernia, in order to enhance the understanding of the disease among clinicians. **Methods** The clinical data of patients with incarcerated inguinal hernia admitted to the Department of Gastrointestinal, Hernia and Abdominal Wall Surgery of Zhengzhou Central Hospital Affiliated to Zhengzhou University from June 2021 to June 2024 were retrospectively analyzed. The clinical characteristics, treatment methods, and

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prognosis of these patients were summarized. **Results** A total of 45 patients were included. Among them, 9 cases were successfully treated with manual reduction (including 1 case of pseudo-reduction and emergency surgery was performed), and the remaining of 36 cases underwent emergency operation due to failure of manual reduction or lack of indications for manual reduction. Among the 37 emergency surgery patients, there were 21 cases of indirect hernia, 3 cases of direct hernia (all male), 9 cases of femoral hernia (all female) and 4 cases of obturator hernia (all female). The contents of incarcerated hernia included small intestine in 34 cases, sigmoid colon in 2 cases, appendix and part of cecum in 1 case. After repositioning the contents of the hernia through laparoscopic surgery, hernia repair was performed. Based on the degree of ischemic recovery, 6 cases were converted to open surgery for intestinal resection, 3 cases were found to have strangulated necrosis and converted to open surgery for necrosis resection and hernia repair, 1 case was in critical condition and directly underwent open tissue suture repair, and retrograde incarcerated hernia (Maydl hernia) was confirmed by abdominal exploration twice, and partial small bowel resection was performed. According to the abdominal contamination, 3 patients were treated with biological mesh and 33 patients were treated with polypropylene lightweight large-mesh mesh. The operation time was 50-130 minutes, with an average of 70.5 minutes. One patient who underwent simple tissue suture repair died on the third day after surgery, the other patients were discharged smoothly, and the hospitalization time was 2 to 26 days. All patients were followed up for half a year, one year and one and a half years after operation, and there was no recurrence or mesh related infection. **Conclusion** The condition of incarcerated hernia is complex and changeable, and individualized treatment should be made according to the condition. Manual reduction can make the operation from emergency to elective. The surgical methods need to be selected based on the patients' condition. Laparoscopy has obvious advantages in all aspects. Abdominal contamination is not a contraindication for material repair. Under the conditions, tension-free repair should be prioritized, and synthetic mesh is the preferred choice. Biological mesh has more advantages when the abdominal cavity is heavily contaminated, and the material repair should be avoided when the abdominal wall soft tissue infection in the repair area is combined.

【Keywords】 Incarcerated inguinal hernia; Manual reduction; Abdominal contamination; Laparoscopy; Tension-free repair; Synthetic mesh; Biological mesh

嵌顿疝是疝外科常见病，腹腔内容物进入疝囊后，因疝环卡压无法自行复位，进而发生血液循环障碍，导致疝内容物缺血坏死、腹腔感染等。若救治不及时，可能导致病情恶化，甚至危及生命。文献数据显示，嵌顿性腹股沟疝的发病率占腹股沟疝患病群体的 5%~10%，病死率达 2.6%~9.0%^[1]。我国疝病基数大，嵌顿疝患者多，腹股沟疝手术中急诊手术约占 6.1%^[2]。嵌顿疝患者的病情复杂多变，外科修补策略的选择与患者预后密切相关，因此制定个体化诊疗方案意义重大^[3]。本研究回顾性分析嵌顿性腹股沟疝患者的相关诊疗资料，深入研究和总结其诊疗策略、手术方式及存在的争议，以期对嵌顿性腹股沟疝的临床诊疗提供参考。

1 资料与方法

1.1 研究对象

选择郑州大学附属郑州中心医院胃肠、疝和

腹壁外科 2021 年 6 月至 2024 年 6 月收治的嵌顿性腹股沟疝患者为研究对象。纳入标准：通过临床症状、查体和相关影像学检查，确诊为嵌顿性腹股沟疝的患者；排除标准：术后随访过程中失访的患者。本研究经郑州大学附属郑州中心医院医学伦理委员会批准通过（ZXYY2025050）。

1.2 治疗方法

1.2.1 手法复位

针对有手法复位指征的患者可以实施手法复位，目前暂无手法复位相关的指南与共识，指征的把握和操作技巧与患者的病史和疝外科医生的经验密切相关。嵌顿时间 > 24 h、腹部体征及影像怀疑肠坏死，以及特殊类型如股疝等不宜反复尝试手法复位^[4]。疝还纳是由大变小、由小变无的过程，因此初始还纳的目标不是肠管而是肠内容物。疝环狭小且卡压处肠管水肿，肠内容物通过阻力大，手法复位的第一步是实

现疝内容物变小，反向牵拉包块，改变卡压水肿肠管与狭小疝环的相对位置，降低内容物通过的阻力，然后再向腹腔内推送，逐步完成还纳。复位动作需轻柔，依靠“揉”而非“挤”，以期缩小疝内容物。

1.2.2 急诊手术

腹腔镜辅助还纳疝内容物，发生还纳困难时可进行疝环侧切。腹腔镜疝修补手术步骤参照《腹腔镜腹股沟疝手术操作指南》（2017 版）中腹腔镜下经腹腹膜前无张力修补术（TAPP）指南建议^[5]。结合术中情况选择修补方式及修补材料，病情危重或腹腔镜不耐受时，行开放组织缝合修补。

2 结果

2.1 一般资料

共纳入 45 例患者，其中男性 31 例、女性 14 例；年龄 16~86 岁，平均年龄为 (57.7 ± 9.6) 岁；腹股沟疝病程为 7 天至 50 余年，平均病程为 (8.4 ± 2.5) 年；疝嵌顿时长为 60 min 至 10 d，平均时长 (21.7 ± 15.6) h。

2.2 手术情况

45 例患者中，9 例患者手法回纳成功，其中 1 例在还纳后肠梗阻未缓解并进行性加重，中转急诊手术；余 36 例因无回纳指征或回纳失败

行急诊手术。结合术中情况证实 37 例急诊手术患者中斜疝 21 例、直疝 3 例（均为男性，包括 1 例假性复位，中转急诊手术）、股疝 9 例（均为女性）、闭孔疝 4 例（均为女性）。嵌顿的疝内容物：小肠 34 例、乙状结肠 2 例、阑尾及部分盲肠 1 例。腹腔镜下还纳疝内容物后行疝修补，术后结合缺血恢复程度，6 例中转开腹行肠切除；3 例腹腔镜探查见绞窄坏死中转开腹行坏死切除及疝修补；1 例高龄心衰患者病情危重，直接行开放组织缝合修补（观察其肠管活力及色泽正常，还纳腹腔），快速结束手术，术后患者腹膜炎进一步加重，2 次手术腹腔探查证实为逆行性嵌顿疝（Maydl 疝），行小肠部分切除术。结合腹腔污染情况，3 例使用生物补片，其中 1 例盲肠及阑尾嵌顿的患者伴盲肠穿孔，回盲部切除并充分腹腔灌洗，内环口缝闭后放置生物补片，见图 1；1 例患者嵌顿肠管为乙状结肠，肠管缺血病程较长；1 例 16 岁患者还纳嵌顿肠管后，结合专家共识建议实施生物补片修补^[6]；其余 33 例患者使用聚丙烯轻量大网孔补片。

患者手术时间为 50~130 min，平均 70.5 min。除 1 例心衰的高龄患者行单纯组织缝合修补，术后第 3 天因内科合并症死亡，其余患者均顺利出院，住院时间为 2~26 d。于术后半年、1 年、1 年半随访，患者均无复发及补片相关感染。

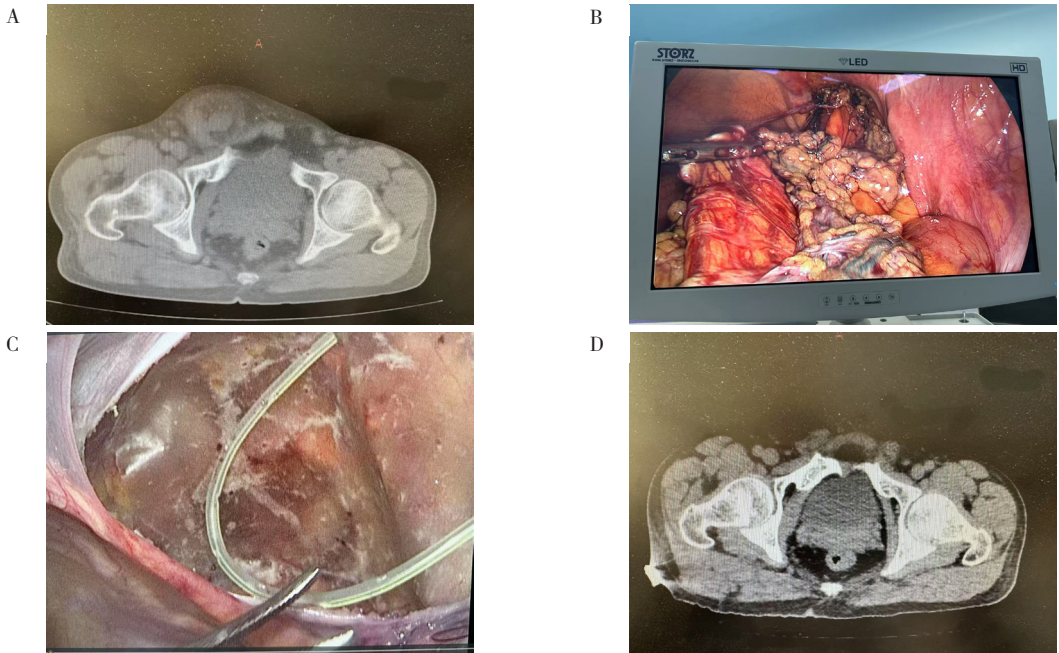


图1 治疗过程

Figure 1. Treatment process

注：A. 盲肠及阑尾嵌顿；B. 盲肠缺血伴穿孔；C. 关闭内环口放置生物补片及腹膜前引流管；D. 还纳修补术后。

3 讨论

腹股沟疝的嵌顿和绞窄实际上是缺血程度的演变过程,常见于有嵌顿史及特殊类型疝(股疝和闭孔疝等),有嵌顿史的腹股沟疝患者需要高度警惕以防再次嵌顿^[7]。反复嵌顿的疝环会形成较严重的瘢痕,当内容物疝出时将承受更大压力,增加还纳的难度,更容易导致嵌顿甚至绞窄。腹股沟疝需进行外科修补,一般无自愈可能^[8],且疾病程度会逐渐加重,对于老年患者,随着年龄增长,围术期并发症发生率不断增加,因此诊断明确后应尽早手术^[9]。

治疗方面首先尝试手法复位。一项关于急诊和择期手术风险对比的研究表明,急诊疝修补的死亡风险较择期增加 7 倍^[10],因此嵌顿疝的首要诊治目标是解除嵌顿。手法复位成功可能使手术由急诊转为择期,但手法复位也存在风险,需严格把控适应证。若包块局部无明显压痛,腹部查体无腹膜刺激征,计算机断层扫描(computerized tomography, CT)等影像评估其发生肠管坏死可能性小,则可尝试手法复位。在嵌顿病程中,时间节点至关重要。一项临床研究显示,嵌顿时间 > 24 h 的腹股沟嵌顿疝患者发生肠缺血行肠切除术概率可达 70%^[11],此时手法复位存在较大的挤破肠管风险。对于特殊类型的嵌顿疝(如股疝、闭孔疝,多见于女性),由于其解剖结构的特殊性,手法复位通常难以成功,且发生绞窄的风险较大。因股环的解剖特殊性,股疝易嵌顿,一旦嵌顿可迅速发展为绞窄^[12]。有研究显示,股疝患者的肠坏死发生率为 46%,显著高于斜疝患者(13.6%)^[13]。闭孔管狭小且缺乏弹性,闭孔疝易合并嵌顿、绞窄,患者多因急腹症就诊,相关文献报道其病死率可高达 70%^[14]。因此,结合患者腹股沟区体征及影像表现,对疑似股疝或闭孔疝诊断应及时实施手术,不建议反复尝试手法复位。另外,考虑到手法复位的风险,复位成功后应当密切观察患者的腹部体征,不能因为复位成功而放松警惕^[15]。本研究中 1 例 82 岁嵌顿性直疝并肠梗阻患者给予手法复位后疝块回纳,但肠梗阻未缓解且进行性加重,遂转急诊手术,术中证实为假性复位,嵌顿的疝内容物连同疝囊一并脱离假疝囊,随后还纳至腹膜前间隙,体表肿物虽消失,嵌顿状态却未解除。

然而,目前国内外尚无权威指南或专家共识针对腹股沟疝手术方式的选择提供明确规范。随着腹腔镜技术的发展,腹腔镜下疝修补术被认为是最佳的腹股沟疝手术方式^[16],尤其对嵌顿疝,其主要优势在于直视下探查腹腔,不易遗漏病情^[17]。本研究中 1 例行开放疝修补术的患者因合并症较多、病情危重,对于全身麻醉及腹腔镜耐受不良,故实施开放手术。术中观察疝囊内嵌顿肠管无缺血坏死表现,为抢救生命,还纳腹腔后组织缝合修补,快速结束手术。术后患者腹膜炎进一步加重,2 次手术腹腔探查证实其为逆行性嵌顿疝(Maydl 疝),嵌顿肠管呈 W 形,隐藏在腹腔内的肠袢已坏死,由此可见腹腔探查至关重要。腹腔镜下还纳疝内容物后需观察缺血恢复情况,而修补疝的过程也是动态观察的过程,腹腔镜缩短了手术时间,提高了安全性,具有明显优势,但由于其需要进行全身麻醉,对患者的心肺功能有一定要求,气腹对循环的稳定也有较大影响,危重及老年患者应进行充分的术前讨论,遵循个体化治疗原则,选择合适的手术方式,最大程度降低围手术期风险^[18]。

回顾疝修补的发展历程,无张力修补在降低复发率等方面的优势已得到体现^[19]。由于单纯组织缝合修补的复发问题,患者可能面临二次手术。一项关于 Lichtenstein 术和 Bassini 术治疗腹股沟嵌顿疝的对比研究结果表明,二者在术区感染、补片感染的发生率上差异无统计学意义,且补片修补术具有低复发率的优势^[20]。因此,在病情允许的情况下,建议一期实施无张力修补。成人腹股沟疝诊断和治疗指南(2018 年版)指出,补片的植入需严格遵循无菌原则,由于疝内容物的绞窄、菌群移位,易导致修补区域污染,继发补片感染,是放置补片的禁忌^[21]。随着材料学的快速发展,各种具有特殊生物学特性的补片相继问世,使用指征逐渐宽松。越来越多的临床研究表明,在伴随修补区域污染的情况下放置补片修补具有可行性^[22-23]。《腹腔镜腹股沟疝手术焦点问题中国专家共识》(2024)提出,腹腔即使伴有肠切除的情况,合成补片修补仍具有一定安全性^[24]。轻量大网孔合成聚丙烯补片是目前疝外科的主流修补材料^[25],这与其自身的生物学特性密切相关,轻量化后具有异物反应轻的特性,大网孔有利于巨噬细胞清除炎症因子,且利于诱导组织长入,

可显著降低感染发生率^[26]。腹膜具有强大的吸收能力,去除污染因素后,炎症介质易被吸收,显著降低了补片感染风险^[27]。正是由于这些特性,补片的感染风险显著降低,但在创面严重污染的情况下,仍应避免使用合成材料^[28]。

近年来,通过对相关材料生物学特性的深入研究,指南和专家共识不断更新指导意见。《腹壁缺损修复与重建中国专家共识》(2019 版)指出,生物材料支持血管生成、诱导组织细胞长入,具有一定的耐受感染能力,较适宜于创面严重污染的情况^[29]。针对消化液外溢、腹腔污染重的情况,生物补片可能更有优势。但耐受感染不等于抗感染,肠管坏死后波及缺损区域,发生软组织感染甚至蜂窝织炎等情况时将严重影响血管化及组织再生,补片甚至可能成为感染源^[30]。对于绞窄病程较长、合并缺损区域软组织感染的情况,建议放弃使用补片修补^[31-32],此类患者往往病情危重,应将抢救生命放在首位,待其生命体征平稳后争取快速结束手术,后续再实施二期修补。值得注意的是,生物补片抗原反应相对较重,易形成血清肿,补片“漂浮”其中,耐受感染的能力减弱,组织再生受阻进而导致复发率增加。因此,建议常规放置腹膜前引流管,当引流量低于 20 mL,超声评估修补区域无明显积液后,可予拔除。生物补片的获取途径及处理工艺导致其价格较高,且复发率方面也存在劣势^[33],主要应用于特定群体及特定情况。结合术中情况,本研究中 2 例污染情况特殊的患者使用生物补片(1 例盲肠及阑尾嵌顿的患者伴盲肠穿孔,另 1 例患者嵌顿肠管为乙状结肠,肠管缺血病程较长),治疗效果较好。

综上所述,嵌顿疝病情复杂且多变,对于有手法复位指征的患者,手法复位可以使手术由急诊转为择期,降低手术风险,但复位后仍需密切观察,警惕肠管破裂及假性复位可能。腹腔镜手术在各方面优势明显,若腔镜耐受性差,应立即实施开放手术。腹腔污染并非材料修补的禁忌证,为降低复发率,在情况允许时,应尽可能一期实施无张力修补,合成补片是主流的修补材料,但在腹腔污染较重时,生物补片更具优势。

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