

·指南与共识·

中国直肠癌手术吻合口漏诊断、预防及处理专家共识(2019 版)

中华医学会外科学分会结直肠外科学组

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DOI: 10.3760/cma.j.issn.1671-0274.2019.03.001



扫码阅读电子版

吻合口漏(anastomotic leakage, AL)是直肠癌手术常见的严重并发症,其发生率在 2.4%~15.9% 之间,吻合口漏发生后的病死率可高达 16%^[1-3]。吻合口漏不仅影响患者的术后恢复,严重的吻合口漏需再次手术干预,甚至会影响患者的远期生存效果^[4-5]。吻合口漏存在诸多危险因素,例如男性、吸烟、肥胖、肿瘤巨大、患有糖尿病等。近年来,随着全直肠系膜切除(total mesorectal excision, TME)手术的推广、腹会阴联合切除手术数量的减少以及低位(超低位)吻合的增加,加之微创技术的普及、新辅助治疗策略的实施以及器械吻合技术的发展,使得直肠癌术后吻合口漏持续成为结直肠外科的热点问题。为此,中华医学会外科学分会结直肠外科学组发起并组织国内部分结直肠外科专家,以循证为基础、以问题为导向,制定《中国直肠癌手术吻合口漏诊断、预防及处理专家共识(2019 版)》,以期国内从事结直肠外科临床工作的同行提供参考。

一、直肠手术吻合口漏的定义、诊断与分级

(一)定义

2010 年,直肠手术吻合口漏由国际直肠癌研究组(International Study Group of Rectal Cancer, ISREC)定义为:在结肠-直肠或结肠-肛管吻合部位的肠壁完整性的中断、缺损,使得腔内外间室连通(包括重建直肠储袋缝合线部位的漏,如 J-pouch)以及于吻合部位旁出现盆腔脓肿^[6]。(专家赞成率 95.45%)

根据吻合口漏发生的时间分为:早期漏(术后 30 d 内)和迟发漏(术后 30 d 后)^[7]。(专家赞成率 65.91%)

(二)直肠吻合口漏的诊断与分级

吻合口漏分级方法并不统一。2010 年,ISREC 提出了目前国际较为公认的吻合口漏分级方法,将直肠吻合口漏分为三级,具体见表 1^[6]。

表 1 国际直肠癌研究组的吻合口漏分级^[6]

分级	临床表现
A 级	亚临床吻合口漏,也称作影像学吻合口漏,无临床症状;不需特殊治疗
B 级	表现为腹痛、发热,脓性或粪渣样引流物自肛门、引流管或阴道流出(直肠阴道瘘),白细胞及 C 反应蛋白升高;需保守治疗的吻合口漏
C 级	表现为腹膜炎、脓毒症,及其他 B 级吻合口漏的临床表现;需二次手术治疗的吻合口漏

二、直肠癌手术吻合口漏的相关危险因素

(一)术前因素

1. 性别:男性是术后吻合口漏的独立危险因素^[8-15]。男性患者吻合口漏发生率高于女性患者,与男性骨盆狭窄导致手术难度大、手术时间长相关。(专家赞成率 68.18%)

2. 美国麻醉师协会(American Society of Anesthesiologists, ASA)分级:ASA 分级与吻合口漏的发生密切相关。ASA 分级≥Ⅱ或Ⅲ级被认为是吻合口漏的危险因素^[8-12]。(专家赞成率 88.64%)

3. 体质指数(body mass index, BMI):直肠癌术后吻合口漏与高 BMI 密切相关。BMI≥30 kg/m²显著增加吻合口漏的发生率^[14]。(专家赞成率 88.64%)

4. 术前合并症:患者术前有糖尿病、肾功能不全、低蛋白血症等合并症,会增加吻合口漏的发生率^[8,16]。(专家赞成率 97.73%)

糖尿病患者的术后吻合口漏发生率明显高于非糖尿病患者,糖尿病为吻合口漏的独立危险因素^[17]。对于肾功能不全的直肠癌患者,特别是在进行急诊手术时,建议谨慎选择一期吻合手术^[16]。术前低白蛋白血症能够反映全身疾病严重程度,可能直接影响吻合口愈合^[18]。(专家赞成率 97.73%)

5. 术前肿瘤治疗:对于可能影响吻合口愈合的术前肿瘤治疗,包括新辅助治疗(长程化疗及短程放疗),可能增加直肠癌术后吻合口漏的严重程度,并导致愈合时间的延迟^[19]。(专家赞成率 97.73%)

使用抗血管生成的靶向药物(如贝伐单抗)的转化治疗,是否会影响正常组织微循环,从而影响吻合口愈合,仍有争议^[20-21]。(专家赞成率 75.00%)

6. 吸烟和饮酒:吸烟和饮酒被认为是吻合口漏的高危因素^[22]。吸烟相关的微血管疾病可能影响结直肠的血供,导致吻合口继发缺血。酗酒可能与营养不良相关,术后易发生心功能不全、免疫抑制及凝血功能不全,是发生吻合口漏的可能机制。(专家赞成率 56.82%)

7. 术前药物使用:长期应用糖皮质激素,尤其是联用其他免疫抑制药物,可能增加吻合口漏风险^[23-24]。虽然尚无证据表明,非甾体类抗炎药会增加吻合口漏的发生率,但围手术期应慎重使用该类药物^[25-27]。(专家赞成率 100%)

8. 肿瘤状况:肿瘤分期和直径是吻合口漏发生率增加的

危险因素。肿瘤分期和直径的增加,意味着患者的全身状态通常较差,盆腔内手术操作的困难也增加。(专家赞成率 56.82%)

研究显示,肿瘤直径 ≥ 5 cm,吻合口漏的发生率增加 4 倍^[28]。(专家赞成率 54.55%)

9. 机械性肠道准备和抗生素的使用:机械性肠道准备和抗生素的使用与吻合口漏发生的关系仍有争论^[29-30]。近年来研究认为,机械性肠道准备联合术前口服非肠道吸收性抗生素,可以显著降低吻合口漏的发生率^[31-32]。(专家赞成率 56.82%)

(二)术中因素

1. 手术方式及入路:直肠癌的手术方式及入路,应根据术者经验、肿瘤位置、分期和患者的身体状况综合决定^[33-35]。众多临床研究及荟萃分析结果显示,不同的吻合方式(端端吻合、端侧吻合等)对于发生吻合口漏的影响无差别(专家赞成率 75.00%);腹腔镜手术与开腹手术吻合口漏发生率无显著差异^[36-37]。(专家赞成率 86.36%)

TME 是中低位直肠癌的金标准术式,由于 TME 手术完全切除直肠系膜,且在低位离断直肠后实施消化道重建,因此,TME 手术比非 TME 手术的吻合口漏发生率更高^[1]。经肛全直肠系膜切除术(transanal TME, taTME)是近年来新发展起来的术式,欧洲结直肠疾病学会(European Society of Coloproctology, ESCP)协作组发布的一项国际多中心临床分析结果显示,taTME 术后吻合口漏的发生风险高于腹腔镜辅助 TME 手术($P=0.02$)^[38]。(专家赞成率 54.55%)

2. 吻合口与肛缘距离:吻合口与肛缘距离是吻合口漏的重要影响因素,该距离 < 5 cm 可将吻合口漏发生风险提高 8 倍余^[22,39-40]。多因素分析显示,吻合口距肛门距离是吻合口漏发生的独立危险因素^[41]。(专家赞成率 93.18%)

3. 预防性肠造口:预防性造口对吻合口漏发生率的影响存在争议^[42-46]。预防性造口可以降低吻合口漏所引起的腹膜炎等严重并发症的发生率,也可降低吻合口漏后的再手术率以及吻合口漏相关的病死率。(专家赞成率 93.18%)

4. 术中出血量与围手术期输血量:术中出血量与吻合口漏的发生具有相关性^[9,28-29]。此外,围手术期输血量 ≥ 400 ml 被认为是吻合口漏的高危因素^[28]。(专家赞成率 52.27%)

5. 切断直肠使用闭合器数目:腹腔镜手术中切断直肠使用切割闭合器数目 ≥ 3 个可将吻合口漏的发生风险提高 1.42 倍;钉合线之间出现缺损增多,导致吻合口漏发生率增加^[28,34,47-49]。(专家赞成率 93.18%)

6. 其他:保留左结肠动脉,对吻合口漏的发生是否存在影响,仍然存在争议^[28-34,50-51]。(专家赞成率 56.82%)

有文献表明,侧方淋巴结清扫会增加术后吻合口漏发生率^[28,52]。(专家赞成率 34.09%)

(三)术后因素

术后因素对吻合口漏的影响,主要体现在对患者全身状态调整改善情况方面。即使术前已经纠正贫血、低蛋白血症、高血糖等,经历手术麻醉打击后,术后仍应密切观察患者

的上述各项指标。术后应用非甾体类抗炎药物镇痛是否会增加吻合口漏的发生率,尚缺乏证据。(专家赞成率 47.73%)

术后吻合口出血被认为是吻合口漏发生的危险因素,但临床上往往并不能区别是吻合口漏导致了出血,还是吻合口出血继发了吻合口漏。术后早期腹泻可能与直肠癌低位前切除术后吻合口漏的发生相关^[53]。(专家赞成率 84.09%)

术后关注心肺功能,避免因心肺因素导致的低氧血症也是保证组织灌注,减少吻合口漏发生的必要措施。

三、直肠癌术后吻合口漏的预防

(一)术前预防

积极纠正术前高危因素,对于存在低蛋白水平、糖尿病、贫血、肠梗阻等可能增加吻合口漏风险的患者要在术前积极改善全身状况^[54-56];术前可进行机械性肠道准备联合口服非肠道吸收抗生素^[31-32]。(专家赞成率 56.82%)

(二)术中预防

1. 预防性造口:预防性造口可以减轻、甚至避免中低位直肠癌前切除术后吻合口漏导致的严重腹腔感染、脓肿、感染性休克等危及患者生命的状况发生,避免因吻合口漏导致的二次手术^[57-58]。

中低位直肠癌手术施行预防性造口的手术指征尚有争议,对于如下情况可考虑施行预防性造口术:(1)全身情况较差者;(2)术前存在肠梗阻;(3)存在吻合口漏的高危因素。预防性造口是降低吻合口漏的并发症严重程度、以及再手术风险的方法之一^[45,59]。(依情况做预防性造口,专家赞成率 79.55%)

2. 吻合口血供:吻合口血供是确保安全吻合的最重要条件之一。为保证吻合口良好的血供,术中应仔细判断边缘动脉避免损伤。在不能确定吻合口血供是否良好的情况下,可以考虑应用术中荧光显影(吲哚菁绿)技术协助判断^[60]。另外,尽管存在争议,诸多研究认为,术中保留左结肠动脉(left colic artery, LCA)可以改善乙状结肠远端的血供^[61-62]。尤其对老年患者,考虑存在动脉硬化等因素时,保留 LCA 可能是有益的选择。(专家赞成率 56.82%)

3. 吻合口张力:吻合后的乙状结肠应该是几乎贴附于骶前,避免形成“桥样悬空”,才是吻合口无张力的状态。一般认为,亚洲人的乙状结肠相对较长,手术中不必要常规游离结肠脾曲。但无论是否游离结肠脾曲,都应该保证吻合口彻底无张力。直肠癌根治术中以下情况时应考虑游离结肠脾曲:(1)吻合位置低:超低位吻合、结肠-肛管吻合时,乙状结肠在盆腔内有“桥样悬空”表现;(2)乙状结肠系膜粘连严重,或游离后远端血供欠佳,被迫切除更多肠管;(3)乙状结肠系膜肥厚偏短等;(4)考虑行结肠储袋吻合的情况下。(专家赞成率 93.18%)

4. 吻合器选择:应根据肠管直径,选择合适的吻合器型号。多数研究认为,圆形吻合器直径与吻合口漏无相关性^[40,49]。横断肿瘤远端直肠的切割闭合器多选择成钉后 1.5~1.8 mm 的高度,尽量避免使用超过 2 个切割闭合器。(专家赞成率 93.18%)

5. 引流:盆腔引流:多数临床研究或荟萃分析提示,盆腔引流并不能降低吻合口漏的发生^[33,63-64]。但是,盆腔引流可以减少盆腔血肿和感染的发生,减轻吻合口漏的临床症状,并有助于治疗吻合口漏^[39]。一般将引流管放置于吻合口旁以及盆腔的最低处。(常规推荐盆腔引流,专家赞成率 100%)

预置肛管引流:其作用尚存在争议,但诸多研究支持预置肛管在预防直肠癌术后吻合口漏的作用^[65-69];或降低 C 级漏的发生率^[65-67,70-72]。(依情况做预置肛管引流,专家赞成率 52.27%)

6. 吻合质量检测:吻合口检测通常应该采用盆腔注水,经肛门注气的充气试验进行测漏。研究表明,术中肠镜检查有助于判断吻合口质量、吻合口有无出血、吻合口血运情况等。内镜检查并未降低吻合口漏的发生率^[73]。(依情况做吻合口检测,专家赞成率 45.45%)

吻合口缝合加固:吻合口缝合加固能否降低中低位直肠癌术后吻合口漏的发生率存在争议^[74-75]。中低位直肠癌手术多采用双吻合器吻合,吻合口侧方形成两个交角(“狗耳朵区”),此处的缝钉相互交叉,结构薄弱,是吻合口漏的好发部位^[75]。如果操作方便,适当加固缝合是可取的。(依情况做吻合口缝合加固,专家赞成率 54.55%)

四、直肠癌术后吻合口漏的分级处理原则

外科医生应该在遵循基本治疗原则的同时,根据不同等级的吻合口漏,在营养支持治疗及抗感染治疗的基础上,严密观察病情变化,采取个体化治疗策略。对于接受新辅助放疗以及术后需要接受辅助治疗的吻合口漏患者,建议采取更为积极的干预措施。

A 级漏的临床处理对策:无需特殊外科干预,但要在保证引流通畅的前提下,给予全身营养支持治疗以及强有力的抗感染治疗。(专家赞成率 95.45%)

B 级漏的内镜或介入治疗指征:对于吻合口漏较小的患者,可以经过介入途径向盆腔与肛门置管进行双向灌洗、负压吸引以保持吻合口漏周围无粪便聚集。具有通畅引流或吻合口漏出较少的患者,可以试行内镜下治疗,使用覆膜支架对漏口进行封闭^[76-77]。但是,对于距离肛门 <3 cm 的吻合口漏,覆膜支架对肛管刺激强烈常不能耐受;对于吻合口漏直径 >1 cm 者,覆膜支架难以达到促进愈合目的。对考虑愈合时间较长、或者治疗无效的 B 级吻合口漏患者,应积极考虑外科手术干预。(专家赞成率 77.27%)

C 级漏的外科干预:有明显的腹膜炎或出现休克的患者,首选的治疗应该是手术,建议尽早行近端肠管的造口手术或拆除吻合口而实行永久性结肠造口,术中充分冲洗,尽可能清除腹腔内污染物,同时充分引流^[78-80]。(专家赞成率 100%)

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(收稿日期: 2019-01-24)

(本文编辑: 卜建红)