

专题笔谈

减重代谢手术与胃食管反流病

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国际指南(共识)中胃袖状切除术病人胃食管反流病的处理建议解读

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【摘要】 肥胖已成为全球性公共卫生问题。与药物治疗相比,减重代谢手术不但能帮助病人减轻体重、降低病死率,还能使其获得长期稳定的健康。腹腔镜胃袖状切除术(LSG)作为减重代谢手术中的一种,因不改变正常解剖结构、简便易行、并发症少的特点,已成为治疗肥胖症的最优术式。胃食管反流病(GERD)作为LSG的常见并发症,一旦处理不当将严重影响手术效果和病人预后,所以近年来越发受到临床关注。临床医师在基于国内外诊治指南基础的同时,应做好病人术前GERD的检查工作,对肥胖合并GERD的病人予以合理方式进行治疗。对接受LSG的病人,应遵循个体化治疗原则,做好术中精细操作,制定方案应对SG后GERD的发生,进一步提升病人减重效果和预后。

【关键词】 胃袖状切除术;胃食管反流病;国际专家共识;指南

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Interpretation of international guidelines (consensus) for the management of gastroesophageal reflux disease in patients with sleeve gastrectomy

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Abstract Obesity has become a global public health problem. Compared with drug therapy, Bariatric metabolic surgery (MBS) can not only help patients lose weight, reduce mortality, but also achieve long-term stable health.

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Laparoscopic sleeve gastrectomy (LSG), as one of MBS, has become the best operation for the treatment of obesity. Because it does not change the normal anatomical structure, is simple, and has few complications. Gastroesophageal reflux disease (GERD), as a common complication of LSG, has been paid more and more attention in recent years because it will seriously affect the surgical effect and patient prognosis once it is not properly handled. Based on domestic and foreign diagnosis and treatment guidelines, clinicians should do a good job of preoperative GERD examination, and provide reasonable treatment for obese patients with GERD. For patients receiving LSG, the principle of individualized treatment should be followed, fine intraoperative operations should be done, and plans should be formulated to deal with the occurrence of GERD after SG, so as to further improve the weight loss effect and prognosis of patients

Keywords sleeve gastrectomy; gastroesophageal reflux disease; international consensus; guideline

2006年,蒙特利尔共识将胃食管反流病(gastroesophageal reflux disease, GERD)定义为胃内容物反流引起的不适症状和(或)并发症^[1]。根据内镜下表现将GERD分为3类,即非糜烂性反流病(nonerosive reflux disease, NERD)、反流性食管炎(reflux esophagitis, RE)及Barrett食管。2020年首尔共识对GERD定义进行了更新,指出GERD作为胃食管反流病的总称,基本病理生理机制为食管胃结合部功能不全,导致病人出现食管下括约肌(low esophageal sphincter, LES)低压、食管裂孔疝(hiatal hernia, HH)、仰卧位反流以及胃酸清除不佳等症状^[2-3]。肥胖是GERD的独立危险因素,随着全球肥胖率的迅猛增长,GERD病人也显著增加^[4]。减重代谢手术已成为治疗肥胖症的有效手段,其中胃袖状切除术(sleeve gastrectomy, SG)是目前应用最广泛的术式,然而有研究结果报告,SG术后可能出现新发GERD或原有GERD加重^[5]。因此,应重视行SG手术病人GERD的处理。

随着循证医学证据的不断积累,各指南或共识也从不同角度针对SG病人的GERD问题提出处理建议。国际指南主要包括国际食管疾病学会(international society of diseases of the esophagus, ISDE)制定的《减肥手术或内镜治疗前的胃食管检查》(以下简称ISDE指南)^[6],国际肥胖与代谢病外科联盟(international federation of surgery for obesity and related diseases, IFSO)制定的《关于肥胖管理定

义和临床实践指南的共识》(以下简称IFSO共识)^[7],IFSO联合法国肥胖外科协会(Société Française et Francophone de Chirurgie de l'Obésité et des Maladies Métaboliques, SOFFCO-MM)制定的《胃食管反流和腹腔镜胃袖状切除术:第一届国际共识会议的结果》(以下简称IFSO/SOFFCO-MM共识)^[8],来自11个国家24个中心的SG经验丰富的医师(每位医师行SG例数>500例,累计手术量>12 000例)共同制定的《国际胃袖状切除术专家小组共识声明》^[9],来自32个国家54名减重代谢手术的专家共同制定的《第一个修正的关于胃袖状切除术德尔菲共识声明》^[10]以及来自25个国家46名减重代谢手术领域的专家共同制定的《胃袖状切除术后手术的更佳实践方法:专家修正的德尔菲共识》^[11],国内指南主要包括中国医师协会外科医师分会肥胖和糖尿病外科医师委员会制定的《中国肥胖及2型糖尿病外科治疗指南(2019版)》^[12]和《精准肥胖代谢外科手术中国专家共识(2022版)》^[13]。这些指南特色鲜明,各有侧重。本文将针对这些指南中有关SG后GERD的处理建议进行分析解读。

1 SG术前诊断GERD的方法

1.1 食管钡餐造影(barium radiography of esophagus, BE)

ISDE指南认为,在减重代谢手术前,不应行BE来诊断GERD,在临床怀疑HH的情况下,可以进行BE以诊断HH^[6]。与食管动态反流监测相比,BE用于诊断GERD的敏感度和特异度较差,BE经常会因为管腔内钡剂过多掩盖了黏膜疾病而产生假阴性结果,并且由于气泡和不溶解的造影剂形成类似食管炎的表象而产生假阳性结果^[14-15]。这些因素限制了BE在GERD诊断中的应用,所以不推荐常规使用BE诊断GERD。然而,对于术前识别HH或食管结构异常,BE具有相对较高的价值。一项研究比较了BE和高分辨率食管测压(high resolution esophageal manometry, HRM)在诊断HH方面的准确性,并以术中探查结果作为金标准,结果发现HRM是识别HH最准确的检测方法(特异度为91.5%,敏感度为94.3%),BE与HRM相似,其特异度为97.9%,敏感度为69.8%^[16]。BE诊断HH的准确度虽不是最优,但由于其具有非侵入性、相对廉价和无需镇静等优势,已广泛应用于临床。

1.2 食管pH阻抗监测 ISDE指南指出,对于有典型GERD症状的病人和非典型GERD表现的成人,术前可以应用食管pH阻抗监测,以作为选择SG和Roux-en-Y胃旁路术(Roux-en-Y gastric bypass, RYGB)两种术式的重要依据^[6]。病理性胃食管反流可能表现为无GERD典型症状,且并非总是表现为异常酸暴露^[17]。一项基于pH阻抗监测的Meta分析结果显示,RYGB后病人胃酸反流次数显著减少,SG后病人反流发作和非胃酸反流发作总数显著增加^[18]。但随着随访时间的延长和研究队列的扩大,也有文献报道SG术后中远期GERD缓解率增加^[19]。综合各项研究结果,关于减重代谢手术后既往GERD的缓解情况或新

发GERD的结局,各研究结论报告不一。虽然目前对SG术后新发GERD还存在争议,但目前证据可以推断的结论是RYGB可以显著缓解GERD,且RYGB术后新发GERD概率显著低于SG。

2 合并GERD病人行减重代谢手术术式选择

ISDE指南不建议无症状GERD病人行SG^[6]。IFSO共识认为,对于HH较大和(或)有严重胃食管疾病或Barrett食管的病人,相比于SG,更推荐应用RYGB^[7]。IFSO/SOFFCO-MM共识指出Barrett食管伴肠上皮化生和严重食管炎[食管炎洛杉矶(LA)分级-D级]是SG的绝对禁忌证^[8]。既往研究表明,SG术后部分病人出现新发GERD或原有GERD症状加重。一项Meta分析纳入5项涉及到RYGB和SG手术结局的随机对照试验,发现相比于RYGB,SG后出现GERD恶化和需要转为其他手术的情况更多^[20-24]。另外,一项研究调查了减重代谢手术后GERD的风险,结果显示,66%的术前无症状GERD病人(定义为食管炎LA-B、C、D级和(或)无症状食管酸暴露异常)在SG术后出现了GERD症状^[25]。但也有研究结果表明,SG术后中远期GERD缓解率增加,所以目前关于SG对GERD影响的研究结果存在一定的异质性。即使SG对GERD的影响目前尚无定论,但各指南均认为严重食管炎(食管炎LA-C或LA-D级)、GERD伴有Barrett食管或较大HH是SG的禁忌证。此外,既往研究并未涵盖轻度食管炎(食管炎LA-A级),而且GERD并非决定手术策略的唯一因素,仅因为存在轻度食管炎而改变外科手术的选择是不合理的。

3 减少GERD发生的SG手术操作技巧

3.1 胃支撑管直径 SG中借助胃支撑管更有利于手术实施,因为它不仅能够有效降低胃内压,使术中视野暴露充分方便术者操作,而且还能在术中引导术者对胃进行切除。其管径尺寸大小与术后袖状胃容积以及术后并发症GERD的发生存在关联。《国际胃袖状切除术专家小组共识声明》建议,最佳的胃支撑管大小为32~36 Fr,这一观点也得到《中国肥胖及2型糖尿病治疗指南(2019)》的认可^[9,12]。尽管有研究结果认为,在临床实际操作中胃支撑管选择33~36 Fr能够取得最佳结果,在保证病人围手术期安全的同时,又能达到满意的减重效果;然而考虑到一些证据强度较低的研究也被纳入其中,并且纳入的15项研究中,仅有1项来自亚洲地区,其结论存在明显的地域及人种差异^[26]。此外,还有研究结果证实,与SG中使用管径尺寸较大的胃支撑管病人相比,使用管径尺寸较小的胃支撑管的病人其术后减重效果更佳,并且术后GERD发生的风险并未增加^[27]。当胃支撑管<32 Fr时,术后袖状胃容积残留较小,容易发生胃狭窄,造成食物流通不畅,导致胃内压力大,增加术后GERD发生的风险^[28];而当胃支撑管>36 Fr时,术后袖状胃容积保留过多,存在胃扩张的可能,从而导致术后减重效果不佳或出现术后复胖的情况^[9]。

3.2 袖状胃离断位置 《国际胃袖状切除术专家小组共识声明》和《精准肥胖代谢外科手术中国专家共识(2022版)》均建议行腹腔镜SG时,于距离幽门处2~6 cm离断胃能够减少术后GERD的发生^[9,13]。胃窦在解剖学上是包括幽门窦在内的幽门部,总长5~7 cm,是协助胃排空的输出通道。胃窦黏膜不仅能产生胃酸和胃蛋白酶维持胃内环境的稳定,还能释放胃泌素促进胃的蠕动有助于食物向幽门部以下推送,降低GERD发生的风险^[29-30]。距幽门过近离断胃时,会因为过度离断胃结肠韧带,导致袖状胃下缘缺少组织支持固定,出现胃扭转。而且还有造成幽门环形括约肌损伤的风险,致使病人出现胃排空障碍,导致胃内压力超过LES压力,使得胃内容物反流。距幽门较远处离断胃时,无需过多分离胃结肠韧带,虽能够较好的支持固定袖状胃,但因保留残胃较多,其术后减重效果欠理想。前述两项专家共识均建议将距离幽门2~6 cm处作为胃切除的起始部位^[9,13]。一项前瞻性随机对照研究结果表明,SG中胃窦切除(距离幽门2 cm离断胃)组和胃窦保留(距离幽门6 cm离断胃)组减重效果均较理想,且术后两组GERD发生率差异无统计学意义^[32]。一项回顾性研究结果发现,胃窦切除组不仅术后短期内GERD发生率更低,而且其减重效果也优于胃窦保留组^[33]。然而,也有研究结果发现选择保留胃窦的方式实施SG,不仅术前合并GERD症状的病人能得到改善,而且术后GERD的新发率明显减低^[34]。

《国际胃袖状切除术专家小组共识声明》提到最后的钉仓激发应远离食管胃结合部^[9]。《中国肥胖及2型糖尿病治疗指南(2019版)》也指出,行SG时需完全切除胃底和胃大弯,完整保留贲门^[5]。关于保留贲门结构和功能的具体操作,《精准肥胖代谢外科手术中国专家共识(2022版)》指出于距离His角0.5~1.0 cm离断胃,可以避免His角受到破坏,维持正常的食管胃结合部以及LES的正常解剖结构^[9,12-13]。若His角损伤,胃底推向食管的阀瓣作用也会随之消失,病人过多、过快进食将引起胃内压力急剧增加,超过LES压力,造成食物和酸液反流^[34-35]。在袖状胃形态与术后GERD发生的关系研究中,结果发现远离食管胃结合部离断胃的病人,其术后反流和呕吐症状更轻微^[36]。一项机器人辅助袖状胃切除术的研究结果发现,术中联合His角重建的病人,其术后抗反流效果更佳,不仅能有效缓解病人原有的GERD症状,还能预防术后GERD的发生,达到了减重和抗反流的双重目的^[37]。

3.3 术中HH探查及处理 HH无特异性症状和体征,故存在漏诊可能。肥胖病人本身更易存在HH,若术中不游离左侧膈肌角探查食管裂孔,则会遗漏本已存在的HH,此时单纯进行SG会造成术后GERD发生风险增大。因此,《国际胃袖状切除术专家小组共识声明》建议术中积极辨别HH,如果发现存在HH,该共识及《第一个修正的关于胃袖状切除术德尔菲共识声明》均认为对病人施行SG手术的同时行HH修补术^[9-10]。HH是发生GERD的重要危险因素,有研究结果证实,对于合并HH的病人,行SG的同时行

HH修补术能够显著降低术后GERD的发生率和严重程度^[38]。一项纳入378例接受SG病人的研究结果表明,97例合并HH的病人同期行HH修补术术后无新发GERD,单纯行SG的病人中22.9%术后新发GERD^[39]。

4 SG病人发生GERD的处理

《胃袖状切除术后手术的的最佳实践方法:专家修正的德尔菲共识》指出,对于SG术后GERD诊断明确的病人,若需行修正手术至少间隔12个月;对于SG术后减重效果理想且GERD诊断明确病人,建议持续应用药物治疗1~2年^[11]。生活方式改变和疾病宣教是GERD治疗和预防的基础,在疾病的治疗过程中应贯穿始终^[40]。生活调理包括饮食习惯的改变,即强调病人术后饮食类别应先食用流质饮食,再到富含蛋白质的膳食;进食的量也应该由少到多,大量过饱会因食物在食管远端停滞过久而加剧反流症状。非药物的保守治疗如适量的运动、戒烟戒酒、避免食用可能促进反流的食物(如巧克力、咖啡、辛辣食物、高脂食物等)都可以很好地缓解GERD症状^[41]。药物治疗是GERD治疗的一线疗法,常用药物包括抑酸剂、抗酸剂、促胃肠动力药、黏膜保护剂等^[42-43]。质子泵抑制剂(proton pump inhibitor, PPI)作为治疗GERD的首要选择,症状轻微的病人服用后可迅速缓解症状;中重度GERD病人需要长期规律治疗,文献报告PPI 2次/d,服用4~8周后能够有效控制90%病人的反流症状^[44]。此外,临床上为获得最佳治疗效果,常采用联合用药策略。Suzuki等^[45]研究结果发现,PPI联合胃黏膜保护剂,可进一步缓解GERD病人症状。

《胃袖状切除术后手术的的最佳实践方法:专家修正的德尔菲共识》对SG术后出现GERD的病人,再次手术前必须做食管反流监测或食管压力测压检查未达成共识^[11]。食管反流监测(包括pH监测、pH-阻抗监测、pH-阻抗-压力监测等)能够检测食管腔内有无胃、十二指肠内容物反流,诊断GERD的准确度较高,而且对确诊复杂GERD也有帮助,是目前诊断GERD的“金标准”^[2]。通常采用酸暴露时间百分比(acid exposure time percentile, AET)来评估食管酸暴露的情况。当AET \geq 4%时,考虑存在病理性酸暴露,提示GERD诊断^[46]。然而面对有典型症状的GERD病人[反酸、胃灼热(烧心)等],经过详细的现病史询问,即可以诊断GERD,对以食管外症状为主要表现的GERD病人(咳嗽、咽喉症状、鼻窦炎、复发性中耳炎、哮喘等),食管反流监测的诊断效力有限。食管压力测压法花费高,检查过程中存在不适感,病人对其耐受度较低,故未达成共识。在诊断条件有限的地区或病人惧怕检查情况下,PPI试验可作为诊断GERD的初级方法,供临床医师进行选择。

对于SG术后GERD症状控制不佳的病人,经过至少1年的保守治疗无效后,无论其术后减重效果是否让人满意,《胃袖状切除术后手术的的最佳实践方法:专家修正的德尔菲共识》建议行RYGB^[11]。作为修正手术的RYGB,可以根据病人具体情况调整胃囊大小,对于GERD病人,该术

式几乎能完全清除食管远端酸的产生,并在重建消化道后旷置幽门,食物可快速通过胃腔不停滞,不会造成胃内高压,使食物和胆汁反流至食管。Parmar等^[47]发现通过RYGB修正手术治疗后,80%的GERD病人不再需要服用抑酸药来控制症状。Hendricks等^[48]发现75%的GERD病人经过RYGB修正手术后,其症状完全缓解。

对于LSG术后减重效果满意的、GERD诊断明确的病人,《胃袖状切除术后手术的更佳实践方法:专家修正的德尔菲共识》对于行磁环下括约肌增强术即植入LINX装置进行治疗未达成共识^[11]。借助腹腔镜在食管下括约肌处放置磁性环装置(多颗磁性钛珠连接成环),通过磁珠间的吸引,收缩食管下段造成食管下段高压达到抗反流效果^[49]。与保守治疗相比,接受LINX装置治疗的病人GERD症状改善更优,早期研究结果发现GERD病人在接受LINX装置治疗后,92%病人的生活质量评分提升0.5倍,93%病人的PPI服用剂量减到50%,与进行消化道重建手术相比,植入LINX装置的治疗方式侵入性更小^[50]。一项纳入7项研究35例病人的Meta分析结果显示,植入LINX装置后病人的胃食管反流病-健康相关生活质量评分与基线相比改善显著^[51]。然而植入LINX装置也存在弊端,有研究结果报告,接受此治疗后的病人4年的食管远端腐蚀风险为0.3%,最终有6例病人因出现术后严重并发症而选择摘除LINX装置,并且接受此治疗的病人将无法接受磁共振检查^[52]。考虑到仍需更多临床研究的数据以及进一步的前瞻性实验结果来证实LINX装置对于治疗SG术后GERD的安全性、有效性和可行性,所以该共识并未就SG术后减重效果满意、GERD诊断明确的病人行LINX装置治疗的观点达成共识。

综上所述,本文结合目前的研究证据对国际指南(共识)中涉及SG后GERD的内容进行解读表明,由于SG与GERD的发生机制目前尚不确切,且缺乏高级别研究证据证实,期待未来会有更多确切的关于SG与GERD关系的研究,以便更加精准地治疗SG后病人的GERD症状。

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胃袖状切除术后病人发展为胃食管反流病的自然病程探讨

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【摘要】 胃食管反流病(GERD)在肥胖病人中高发,与体重变化密切相关。减重代谢手术可有效改善部分病人的GERD。然而,根据减重代谢手术的类型不同,也可能加重甚至引起新发的GERD。因此,对接受减重代谢手术,尤其是胃袖状切除术(SG)的病人而言,GERD需重点关注。受影响病人不仅身体机能下降,还面临心理和情绪困扰,进而导致社交能力下降。SG术后GERD的发病是由解剖、生理和物理等多因素互相作用导致,包括袖状胃的形状、术中对食管括约肌的损伤程度以及是否合并食管裂孔疝。治疗方案则包括生活方式改变、药物、介入治疗和(或)修正手术等多种方式。

【关键词】 胃袖状切除术;胃食管反流病;肥胖;抗反流屏障;减重代谢手术

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The natural course of patients developing gastroesophageal reflux disease after sleeve gastrectomy

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Abstract Gastroesophageal reflux disease (GERD) is highly prevalent in obese patients and is closely related to weight changes. However, according to different types of bariatric and metabolic surgery, it may exacerbate or even induce new-onset GERD depending on the type of bariatric and metabolic surgery performed. Therefore, GERD remains a significant concern for patients undergoing bariatric and metabolic surgery, particularly sleeve gastrectomy (SG). Affected patients not only experience declining physical health but also face psychological and emotional distress, leading to decreased social functioning. The incidence of GERD after SG surgery is caused by the interaction of many factors such as anatomy, physiology, and physics, including the shape of the sleeve stomach, the degree of intraoperative injury to the esophageal sphincter, and whether esophageal hiatal hernia is complicated. Treatment options may include lifestyle modifications, medications, interventional therapies, and/or revisional surgery.

Keywords sleeve gastrectomy; gastroesophageal reflux disease; obesity; anti-reflux barrier; metabolic and bariatric surgery

胃食管反流病(gastroesophageal reflux disease, GERD)被定义为胃食管反流相关症状每周发作2次以上,且影响个体健康。普通人群中GERD发生率约为15%,肥胖人群的发生率则上升至22%^[1-2]。GERD主要临床表现为胃灼热(烧心)、反酸或吞咽困难等症状,严重影响生活质量。此外,GERD长期控制不佳可显著增加反流相关并发症的发生风险,如Barrett食管、食道狭窄和(或)食管癌^[3]。GERD发病与肥胖密切相关,通过减轻体重,尤其是在减重代谢手术后,可有效改善多数病人的GERD症状,并提高总体生活质量。然而,根据减重代谢手术类型的不同,一些术式可能会导致GERD恶化,甚至会新发GERD^[4-6]。因此,对许多接受减重代谢手术特别是接受胃袖状切除术(sleeve gastrectomy, SG)的病人而言,GERD仍然是一个需要面对的问题。本文主要讨论SG术后发生GERD的可能病理机制,并对如何预防和治疗SG术后GERD提供可行策略。

1 GERD的发病机制

GERD的发生是多因素综合的结果,包括胃内酸袋(acid pocket)、胃排空异常、抗反流屏障和膈肌脚(crural diaphragm, CD)功能失调等^[4,7]。此外,反流物性质和食管黏膜损伤也对GERD的发生发展有一定影响^[8]。本文主要