DECLARATION OF ROGER LOPEZ

I, Roger Lopez, pursuant to 28 U.S.C. § 1746 and 37 C.F.R. § 1.68, hereby declare as follows:

1. I am a Translator for Morningside Translations.

2. I submit this declaration to certify the accuracy of the English translation of Fang et al., *Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis*, 25:7 J. First Mil. Med. Univ. 876 (July 2005).

3. I am qualified to perform Chinese to English translations and certify the accuracy of Chinese to English translations.

4. My statements are based on personal knowledge and my review of Fang et al., *Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis*, 25:7 J. First Mil. Med. Univ. 876 (July 2005) and its Chinese to English translation. If called as a witness about the facts contained in these statements, I could testify competently based on such personal knowledge and the investigation I have conducted.

5. Attached as **Exhibit A** is a true and accurate copy of Fang et al., *Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis*, 25:7 J. First Mil. Med. Univ. 876 (July 2005).

6. Attached as **Exhibit B** is a true and accurate copy of an English translation of Fang et al., *Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis*, 25:7 J. First Mil. Med. Univ. 876 (July 2005) (hereinafter, "Fang Translation"), which I prepared based on Exhibit A and my personal knowledge of the Chinese and English languages.

NEURENT 1073

7. Fang Translation is a true and accurate translation of Fang et al., *Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis*, 25:7 J. First Mil. Med. Univ. 876 (July 2005) from Chinese to English.

8. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.

9. I have been warned and am aware that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

10. I understand that by submitting this declaration I may be asked to appear for a deposition asking me questions limited to the material in my declaration. With my signature below, I agree to make reasonable efforts to make myself available for such a deposition at a reasonable place and time.

* * *

I declare under the penalty of perjury that the foregoing is true and correct. Executed on December 7, 2023 in Missouri.

Roger Lopez

Roger Lopez

Exhibit A

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我国休克研究引起国际关注

赵克森教授应邀在国际流变学术大会作报告

在6月2日重庆结束的“第12届国际生物流变学和第5届国际临床血液流变学大会”上，中国代表赵克森教授的“重症休克时的血液流变学事件”学术报告，在与会的几百名国际、国内代表中引起较大轰动。

该报告用大量的数据、图片、录相等，阐述了重症休克微循环低灌流量难以恢复的原因是由于白细胞堵塞毛细血管，药物难以到达已经堵塞的毛细血管发挥作用。恢复休克时减低的脉压、脉动血流可以冲走嵌塞停滞的白细胞，使毛细血管灌流恢复，中药虎杖苷起上述作用。在探讨休克顽固性低血压的机理时，查明血管平滑肌钾离子通道激活，引起细胞膜超极化是血管对收缩药物反应下降的重要原因，用钾通道拮抗剂可以恢复血管反应性，再用升压药物可以治疗休克顽固性低血压，从而在国际著名杂志“休克”率先发表了“应用血管反应性恢复剂治疗重症休克的新途径”的论文。报告后几位美国科学院和工程院士，以及多位学者向赵教授表示祝贺，大会主席美国国家科学院和工程院院士钱煦教授握着赵教授的手说：“你们的工作做得好，报告也好。”美国工程院院士史密德尚拜表示衷心祝贺，并在随后的大会报告中8次引用赵教授的工作。

赵克森是广州南方医科大学(原第一军医大学)病理生理教研室教授的博士生导师，是国际休克学会联盟(IFSS)的创建人之一。1959年毕业于哈尔滨医科大学，曾在美国圣迭哥加州大学留学，从师于微循环之父兹外法赫教授。现为国务院学位委员会学科议组成员，中国病理生理会休克专业委员会主任委员，国际休克学会联盟理事，亚洲微循环联盟理事。他组建了我国第一个休克微循环重点实验室，培养出一批优秀的硕士和博士人才，其中包括973首席科学家和国家杰出人才基金获得者。曾获得全军院校优秀教员和总后勤部科学技术一代名师等荣誉称号。

摘自(《科技日报》2005年6月10日)

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免缝拉链在甲状腺手术中的应用

侯贻招(广东省惠东县平海中心卫生院,广东 惠东 516363)

摘要:目的 介绍一种新的无创性关闭甲状腺手术切口的方法。**方法** 采用 ATRAX 公司生产 12 cm 长的 MEDISIP 皮肤免缝拉链关闭甲状腺手术切口,观察其效果。**结果** 15 例患者接受此法关闭手术切口,全部无感染,切口愈合美观,疤痕小,效果理想。**结论** 免缝拉链方法值得在甲状腺手术切口缝合中推广应用。

关键词:甲状腺;手术切口;免缝拉链

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为了解决传统的以丝线缝合切口遗留疤痕的问题。尤其是颈面部皮肤细腻裸露,血液循环丰富,活动多等因素,所以颈、面部手术创口处理都有整形美容效果的问题[1]。要求术后颜面不留明显疤痕,点线协调。因此,我院自 2001 年 10 月至 2004 年 5 月,采用免缝拉链新技术,对甲状腺手术切口进行无创性关闭切口效果的临床研究,收到理想效果,报告如下。

1 材料与方法

1.1 临床资料

15 例甲状腺手术患者,其中男性 5 例,女性 10 例,年龄 20 岁至 60 岁。确诊为原发甲亢 2 例,甲状腺腺瘤 13 例,病程 3 至 5 年。

1.2 材料

免缝拉链为上海 ATRAX 公司生产的 MEDISIP 皮肤免缝拉链,批号 041103,长度 12 cm。主用于外科手术切口之闭合,使用方便,切口对合严密,术后疤痕小,无毒,无过敏等不良反应之优点。

1.3 方法

甲状腺手术毕后,在缝合完皮下组织结束后,用 75%酒精消毒切口周围,纱布抹平欲粘合皮肤。将拉链底口朝外对折,撕去一侧拉链上的不平胶纸,将其平坦粘合于皮肤上,使此侧的拉链链齿切口边缘 0.5 cm,拉链两端要保持比切口两端长约 1~12 cm。同法粘合另一端拉链。用有齿镊一边对合切口缘,另一术者一边拉合拉链即可。

1.4 疗效观察

以关闭时间,术后切口感染率,平均住院时间和切口疤痕形成等情况为观察效果指标。

2 结果

15 例甲状腺手术患者,无 1 例出现术后切口感染,无切口裂开,关闭切口时间平均 2.5 min,平均住院时间 4 d,4 周后随访切口疤痕微小。

2.1 典型病例

病例 1,男,35 岁,惠东平海人,于 2001 年 12 月 13 日左颈前肿物半年为主诉收入我院,患者半年前无意中发现左侧颈前出现一红枣大小肿块,无痛,无出汗,心慌,心悸,消瘦,易怒,多食易饥等症状,未处理。半年来,肿块略有增大,来我院行 B 超及甲状腺功能检查,提示左侧甲状腺腺瘤,排除甲亢。

病例 2,女,21 岁,惠东平海人,于 2003 年 7 月,因颈前肿物发现半月为主诉收入我院。入院前在院外行 B 超、心电图、胸透及甲状腺功能检查,提示右侧甲状腺囊腺瘤,排除甲亢等其它疾病。

上述 2 例典型病例均在入院后第 2 天在颈丛麻下行腺瘤摘除术,手术过程顺利,均采用 ATRAX 公司 12 cm 的 MEDISIP 美肤免缝拉链关闭切口。术后切口愈合良好。术后第 4 天出院。4 周及 1 年后随访,切口疤痕微小,美观平整,无张力。

3 讨论

多年来,外科手术切口以传统的丝线作皮肤全层间断缝合为主,存在皮肤对合不良,切口缝线反应重,术后须拆线,切口疤痕较大,影响美观等不足。有报道[2,3],在美容外科和治疗小儿腹股沟斜疝手术等临床医疗应用 ZT 胶取得很好的效果。为此,我们依据 ZT 胶的启迪,采用 MEDISIP 免缝拉链代替传统的手术以丝线缝合关闭切口的临床探讨。研究其在甲状腺手术切口缝合中的推广使用,通过 15 例患者的临床疗效观察,取得满意的临床效果,深受医患青睐。我们的临床应用体会是:此法与传统的丝线皮肤全层间断缝合相比,操作简单,节省时间,在切口较长时优势更为明显。因其仅接触皮肤表面,皮内无缝线所致的异物刺激,使用方便,无毒等任何不良反应。且皮缘对合严密,间隙小,故切口愈合后疤痕不明显,尤其适用于美容外科。另外切口无需拆线及换药,缩短了病人的住院时间,患者依从性好。在使用过程中我们认为有如下值得借鉴的经验:①以直线切口为佳,有弧度者不大于 15 度;②拉链长度要比切口两端长 1~2 cm 为宜;③两侧拉链链齿距切口边缘 0.5 cm,以免造成切口内翻或外翻;④在进行皮下组织的缝合时要保持两侧切口在同一平面。在手术当中如能较好地注意与处理好上述几点,其临床效果会更理想。

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鼻内镜手术结合鼻腔多部位射频技术治疗常年性变应性鼻炎

方朝新,甄少少(开平市中心医院耳鼻咽喉科,广东 开平 529300)

摘要:目的 探讨鼻内镜手术结合射频技术治疗常年性变应性鼻炎疗效。**方法** 对 63 例药物治疗不能控制症状的常年性变应性鼻炎,采用鼻内镜行鼻中隔粘膜下矫正术,射频点射两侧蝶腭孔和筛前神经及下鼻甲。**结果** 术后 1 个月:显效 92.1%(58/63),有效 7.9%(5/63),总有效率 100%;术后 1 年:显效 88.9%(56/63),有效 7.9%(5/63),无效 3.2%(2/63),总有效率 96.8%(61/63);术后 2 年:显效 82.6%(52/63),有效 12.7%(8/63),无效 4.8%(3/63),总有效率 95.2%(60/63)。与单纯行鼻中隔粘膜下矫正术对照组比较,术后 1 年、2 年总有效率(显效 + 有效 $P<0.01$)显著提高,均有统计学意义。**结论** 鼻内镜手术结合加射频技术治疗常年性变应性鼻炎,具有术区定位准确,疗效好,副作用少等优点。

关键词:变应性鼻炎;鼻内镜;射频治疗

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Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis

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Abstract: Objective To evaluate the therapeutic effects of nasal endoscopic surgery combined with multiple radiofrequency in the treatment of perennial allergic rhinitis. **Methods** Sixty-three patients with perennial allergic rhinitis whose symptoms failed to be controlled by medication received nasal endoscopic surgery for submucous resection of the nasal septum combined with radiofrequency ablation of the bilateral sphenopalatine foramen, anterior ethmoidal nerve and inferior nasal concha. **Result** One month after operation, the rate of excellent recovery was 92.1% (58/63), efficacy rate of 7.9% (5/63), and total efficacy rate of 100%, which was 88.9%(56/63), 7.9%(5/63), and 96.8% (61/63) 1 year after operation, respectively, with 2 patients (3.2%) of the patients failed to respond to the treatment. Two years after the operation, the excellent rate, efficacy rate, and total effective rate was 82.6%(52/63), 12.7%(8/63), and 95.2% (60/63), respectively, with 3 patients failed to obtain good recovery. **Conclusion** Nasal endoscope combined with radio frequency may achieve good therapeutic effects on perennial allergic rhinitis with less adverse effects.

Key words: perennial allergic rhinitis; nasal endoscope; radiofrequency technique

常年性变应性鼻炎手术治疗的方法较多,但单一的治疗方式远期复发率较高。我科于 1998 年 3 月~2003 年 1 月之间,采用经鼻内镜行鼻中隔偏曲矫正加射频点射蝶腭孔、筛前神经、下鼻甲等的多种手段,治疗常年性变应性鼻炎 63 例,经一定时期的随访,效果确切,现报告如下。

1 资料与方法

1.1 临床资料

本院收治的 63 例患者,男 41 例、女 22 例,年龄 19~60 岁,平均 30.5 岁,病程 1~30 年。所有病例符合常年性鼻炎诊断标准[1],同时合并鼻中隔偏曲,均接受过抗组胺药和皮质类固醇药物全身和局部治疗,疗效不佳。此 63 例作为治疗组,按入院时段随机选取,另选 20 例同病患者单纯行鼻中隔手术作为对照组,二组均为住院病例。

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1.2 治疗方法

治疗组患者取平卧位,用 2%地卡因加 1/1000 肾上腺素棉片表麻和收缩鼻腔粘膜。在鼻内镜下,先用 SHP-1 型五官射频治疗仪(广州医疗器械厂产),选强度为 3 档,发射头对准两侧蝶腭孔,鼻中隔两侧前上方(两侧点射位置错开 5 mm,防止鼻中隔穿孔),鼻腔外侧壁前上方和鼻丘、下鼻甲前部(下鼻甲高度肥大者行下鼻甲部分切除术)点射。以射头周围出现白环为宜,下鼻甲前部可射 3~5 个点,鼻丘,鼻腔外侧壁选用射频刀,切致骨膜。再行鼻中隔粘膜下矫正术,合并有钩突肥大、鼻窦炎、中鼻甲肥大或息肉样变、鼻息肉者,行钩突切除、鼻窦开放、中鼻甲外侧部分切除、鼻息肉切除术。术后两侧鼻腔填塞膨胀海绵,48 h 取出填塞物。对照组病例,只行鼻中隔粘膜下矫正术。

1.3 疗效评定标准

按照变应性鼻炎疗效评定标准[1]评定疗效。

1.4 统计处理

两组疗效组间比较行 t 检验。

2 结果

实验组患者术后 1~3 d,鼻塞、流鼻涕症加重,第 4 天随着白色伪膜清除,症状逐渐减轻。3~4 周后,症状消失。未见鼻中隔穿孔,嗅觉减退,鼻干眼干等并发症。

全部病例随访 2 年,观察期不用抗组胺和皮质类固醇等抗过敏药物治疗。

术后 1 个月:显效 92.1%(58/63)、有效 7.9%(5/63),总有效率 100%;对照组显效 40%(8/20)、有效 50%(10/20)、无效 10%(2/10),总有效率 90%(9/10)。

术后 1 年:显效 88.9%(56/63)、有效 7.9%(5/63)、无效 3.2%(2/63),总有效率 96.8%(61/63);对照组中显效 30%(6/20)、有效 40%(8/20)、无效 30(6/20),总有效率 70%(7/10)。

术后 2 年:显效 82.6%(52/63)、有效 12.7%(8/63)、无效 4.8%(3/63),总有效率 95.2%(60/63);对照组中显效 20%(4/20)、有效 40%(8/20),无效 40%(8/20)、总有效率 60%(6/10)。

两组经统计学分析 1 年和 2 年的总有效率均有显著性差异($P<0.01$)。

3 讨论

大量研究表明,鼻腔的副交感神经包括翼管神经和筛前神经的副交感纤维,下鼻甲黏膜内独立的胆碱能神经节,鼻腔无髓鞘感觉神经纤维末梢的一些神经血管肽(血管活性肽和 P 物质),对鼻黏膜的血管舒缩和腺体的分泌起调节作用[2-4]。常年性变应性鼻炎治疗以药物治疗为主,但对存在鼻内结构异常病例,单纯的药物治疗效果往往不佳,应根据具体结构特点进行合理的外科干预。由于鼻腔黏膜神经支配复杂,采用射频技术对鼻腔内多部位进行处理,其中点射两例蝶腭孔阻断了蝶腭神经节后副交感纤维,点射鼻中隔前上方、鼻腔外侧壁前上方破坏筛前神经内侧支、外侧支[3,5]。另外,下鼻甲存在胆碱能微神经节及其副交感神经丛[6],所以对下鼻甲前部选择 3-5 点进行点射。

应用射频技术彻底阻断鼻黏膜的副交感通路,减轻血管张力,减少腺体分泌,从而达到治疗目的[7]。单纯的翼管神经切断术或(和)筛前神经切断术或下鼻甲的处理,在鼻腔黏膜副交感神经的来源和分布上都保留 1~2 个副交感通路,因变应反应弧仍然存在,所以手术后效果差,复发率高[8,9]。本组病例阻断了包括蝶腭神经节节后纤维,筛前神经的副交感纤维以及下鼻甲黏膜内的胆碱能神经节的所有鼻腔黏膜副交感通路,变应反射弧彻底解除,从而获得稳定可靠的效果。另外,鼻中隔偏曲矫正后,消除了两侧鼻腔不平衡刺激,降低了感觉 - 副交感神经反射,同时改善了鼻腔通气引流,有利疾病良性转归,通过多个环节共同作用,显著提高了常年性变应性鼻炎疗效。

本实验组病例研究证明有如下优点:(1) 术区定位准确,尤其是神经阻断效果确切,同时避免对临近重要组织误伤。(2)容易发现并清除影响疗效的鼻内其他症变。如:钩突肥大,中鼻甲肥大、息肉样变,鼻窦炎、鼻息肉等。(3)射频治疗是通过高频电磁波作用,使组织蛋白凝固、变性。点射部位温度较低(60~80 ℃)。没有高温对周围组织的损伤,不会引起血管急性穿破的大出血[10]。无碳化、汽化、烟雾产生,术野清晰,便于连续操作。

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社区慢性非传染性疾病人群综合干预研究

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摘要:目的 通过推行以社区为基础的人群综合干预措施,以控制社区人群慢性非传染性疾病的危险因素,减少慢性非传染性疾病发病率。**方法** 在社区人群健康基线调查基础上建立慢性非传染性疾病监控系统,推行健康教育和健康促进,对高危人群和现患者实行强化干预和药物干预。**结果** 社区人群生活方式有改善,人群中高血压、高血糖水平下移,心脑血管事件明显减少。**结论** 社区人群综合性干预措施是社区慢性非传染性疾病控制的有效途径,具有广泛的应用前景。

关键词:社区;慢性非传染性疾病;干预

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顺德区小黄圃社区位于珠三角中心,社区面积6.6平方公里,管辖人口7497人,1999年进行全社区中年以上人群健康基线调查,显示居民中各种心脑血管病危险因素水平较高[1],以心脑血管病为主的慢性非传染性疾病已成为严重威胁居民健康与生命的主要疾病。本研究从2001~2004年对社区居民实行人群慢性非传染性疾病分级干预,旨在评价在社区中推行疾病干预控制措施后对社区慢性非传染性疾病的防治效果。

1 研究对象与方法

1.1 研究对象

在小黄圃社区居住5年以上的居民,年龄35岁以上。

1.2 研究方法

1.2.1 健全组织结构,建立监测系统 以镇政府牵头,居委会协助,镇医院和小黄圃社区卫生服务站共同组成社区卫生服务领导组和工作组,并制定有关的政策文件,推动本项工作开展。建立社区慢性非传染性疾病计算机信息监测系统,各种慢性非传染性疾病分别建档,便于追踪随访。

1.2.2 人群调查 2001年进行了全人群健康基线调查,在此基础上进行了为期3年的社区慢性非传染性疾病干预控制,于2004年作结局调查,调查对象一般资料(表1)。调查内容包括病史及生活方式的问卷调查,检查血压、身高、体重、胸围、臀围、血脂、血糖、心电图、胸部X线检查及内外科检查,以筛查慢性非传染性疾病及有关危险因素,并作干预前后对比,同时建立个人及家庭健康档案。其质量控制由广东省人民医院流行病学研究室专家指导、参与调查,质控及资料录入人员进行调查前培训考核。

表1 社区调查对象一般资料

	基线人数	结局人数	随方率(%)
男	1676	1378	82.2
女	2407	2133	88.6
合计	4083	3511	85.9

1.2.3 人员培训 镇医院有关人员及小黄圃社区卫生服务站医护人员进行加强培训,向全科医生、社区医学发展,建立一支掌握慢性非传染性疾病调查、监测、干预方法的队伍。

1.3 干预方法

1.3.1 健康宣教 全人群推行健康教育及健康促进,利用板报、宣传单张、健康讲座、健康热线电话、高血压和糖尿病之家等形式进行宣教,指导改变生活中的不良方式。

1.3.2 高危人群进行危险因素强化干预 对血压水平在SBP 130~139和/或DBP 85~89 mmHg者,冠心病、卒中、高血压阳性家族史者,体重指数(BMI)>25者,过量饮酒、嗜烟者,空腹血糖6~7 mmol/L之间者及血脂紊乱者要求戒烟限酒,合理膳食结构,如限盐、少糖,减少脂肪热量摄入,进行定期有氧运动,如散步、打太极拳、小跑,减重等。

1.3.3 现患者的控制和管理 对高血压(SBP≥140 mmHg和/或DBP≥90 mmHg)[2],糖尿病(FBS≥7.0 mmol/L和/或餐后血糖≥11.1 mmol/L)[3]血脂异常者(TC≥5.72 mmol/L和/或TG≥1.70 mmol/L和/或LDL-C≥3.64 mmol/L和/或HDL-C≤0.91 mmol/L)[4],经运动饮食控制也未能达标者及冠心病、卒中现患者除非药物干预外,并进行常规药物干预,依不同情况选用降压、降糖、调脂、抗凝及扩张血管药物治疗,并

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定期 1~3 月复查 1 次。

1.4 统计分析

应用 SPSS 11.5 for Windows 统计软件进行数据处理。

2 结果

干预后社区居民改变自身不良行为,转向健康生活方式行为率如定期锻炼比例增高,遵医服药率增高(表 2),与干预前比较有显著性意义($P<0.05$),但吸烟、饮酒及超重则干预前后无显著性意义($P>0.05$),食盐,食用油摄入量减少,脂肪热能摄入有所下降。

表 2 居民危险因素及生活方式改变情况(%)

项目	基线		结局	
	男(%)	女(%)	男(%)	女(%)
吸烟	58.4	4.7	55.8*	4.1*
饮酒	66.1	16.2	65.3*	15.8*
超重	20.8	21.4	17.6*	19.7*
血脂异常	49.6	35.7	36.2**	19.6**
高血压	20.1	11.5	15.9**	6.2**
高血糖	5.3	5.8	2.8**	2.1**
高盐饮食	52.7	50.3	46.3**	41.8**
定时锻炼	8.7	38.6	26.1**	46.4**
按时服药	38.2	49.7	59.3**	72.4**

基线与结局相比,*$P>0.05$, **$P<0.05$

干预后人群中高血压、高血糖水平及女性血脂异常率有下降,与干预前比较有显著性意义($P<0.05$),而男性血脂异常率干预前后无显著性意义($P>0.05$)。建立了心脑血管病发病及死亡监测系统并进入常规运转。监测结果显示,从 2001 年至 2004 年心肌梗塞、心绞痛和脑卒中等心脑血管事件发病呈下降趋势,死亡率减少(图 1)。

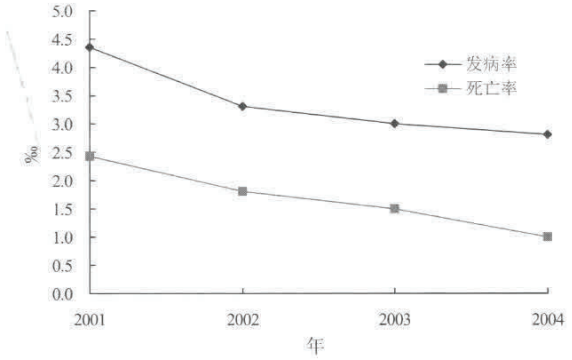

图 1 社区心脑血管事件发病及死亡监测结果

3 讨论

20 世纪 90 年代我国心血管病死亡约占总死亡率三分之一,据世界卫生组织预测,至 2020 年非传染性疾病将占我国死亡原因的 79%,其中心脑血管病将占首位[1]。

社区干预是一项巨大的社会工程,通过社区进行慢性非传染性疾病人群综合性干预,首先有赖于组织机构的完善。本社区由政府牵头,组织有关单位和部门参与,小黄圃居委会协助,镇医院为主力,小黄圃社区卫生服务站具体执行各种工作任务,各有关部门领导和工作人员组成领导组和工作组,镇医院内成立专门办公室,制定有关的政策文件和施行方案,形成与慢性非传染性疾病干预控制有关的支持实施环境和管理模式。社区居民健康基线调查是基础。三年来小黄圃社区实行系统的社区干预,高血压、糖尿病、冠心病及脑卒中患者对有关知识的掌握达 72.0%。疾病管理率达 69.0%。

本研究结果说明,通过社区进行慢性非传染性疾病干预是有效的,是其他方式难以替代的。我国某些城市如北京、天津在城区街道中进行人群危险因素及慢性非传染性疾病病人的分级管理和督导治疗等干预后,同样取得减少其发病率和死亡率的良好效果[5,6],本研究也支持上述结果。此外,覆盖全社区的卫生网络管理系统为居民疾病干预控制起到重要作用。

慢性非传染性疾病的干预是一项需要个人、家庭、政府、卫生部门及社会各界力量共同支持的一项艰巨的系统工程,本项目的实施说明,通过社区来进行慢性非传染性疾病的干预控制是一条有效的途径。作为干预项目,很多效果在 3 年时间仍难观察出干预效果,这要求寻找更多更灵敏的指标来评价。此外,如何使慢性非传染性疾病的干预长期持续性地进行,这也是任重而道远的任务。

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低位直肠癌保肛手术中支撑捆扎法低位吻合的价值

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摘要:目的 评价支撑捆扎法在低位直肠癌保肛手术中低位吻合的价值。**方法** 从929例低位直肠癌中选择629例实施保肛手术。手术方法有双吻合器吻合法(n=101)和经肛门支撑捆扎结肠-直肠(肛管)(n=528)吻合。外科切除范围:除残留肛侧直肠(肛管),肛提肌、肛门内外括约肌、坐骨盲肠窝脂肪组织、肛周皮肤外,与Miles手术相同。**结果** 低位直肠癌保肛率67.69%。根治术后584例随访5年以上。5年生存率:吻合器组75%、支撑捆扎组76.59%。局部复发率:吻合器组5%、支撑捆扎组3.2%。手术合并症:吻合器组吻合口漏4%;支撑捆扎组吻合口漏2.5%。两种保肛方法5年生存、局部复发率及术后并发症无显著差异(P>0.05)。**结论** 低位直肠癌中,在确保根治和术后排便功能,能完成口侧结肠-直肠(肛管)吻合者,可作为保肛适应症选择范围。保肛术式选择,吻合口在盆腔内者选择吻合器技术,在耻骨直肠肌上缘到肌间沟者选择支撑捆扎吻合术。经肛门支撑捆扎吻合可以取代吻合器完成超低位及结肠-直肠(肛管)吻合,两种吻合方法之间对病人的预后影响无差异。

关键词:直肠癌;低位;保留肛门;手术

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直肠癌是常见的恶性肿瘤之一,占我国恶性肿瘤发病率的第四位,其中70%以上的直肠癌为低位直肠癌(腹膜反折以下)[1],近年由于双吻合器(DST)的推广与应用,增加了低位直肠癌的保肛手术率,拓宽了直肠癌保肛手术适应症选择范围。如何在低位直肠癌中合理的选择保留肛门的手术适应症,选择最佳的再建术式是一个值得探讨的问题,以下结合我们低位直肠癌保肛手术的经验及方法报告如下。

1 临床资料

1.1 一般资料

1992年2月~2005年5月外科治疗低位直肠癌929例,选择629例实施保肛手术。男332例、女296例,年龄54±4.8(16~84)岁。肿瘤下缘距肛缘4 cm者204例、4~6 cm者107例、6~8 cm者90例。其中支撑捆扎法完成保肛手术528例、双吻合器法完成保肛手术101例,两组在性别、年龄、肿瘤位置、病理学类型及Dukes分期上无统计学意义差异。

1.2 临床病理资料

大体类型,隆起型107例、盘状型78例、局限溃疡型352例、浸润溃疡型76例、弥漫浸润型6例;组织学分类:乳头状腺癌52例、高分化腺癌196例、中分化腺癌319例、低分化腺癌33例、粘液肠癌19例。中国改良Dukes分期[2]:A08例、A130例、A2194例、B156例、C192例、C296例、D39例。

1.3 保肛手术切除范围

在直肠全系膜(TME)切除的基础上,对上方、侧方淋巴结清扫和软组织进行切除,范围与Miles手术相同。切除肿瘤上缘15 cm的近端肠管及系膜及肿瘤远端1~5 cm,术中判断直肠旁淋巴结转移、肿瘤占居肠腔≥1/2周、侵及直肠侧韧带者进行侧方淋巴结清扫。保留肛侧直肠肛管、肛提肌、肛门内外括约肌,坐骨直肠窝脂肪组织及肛周皮肤。部分病例切除内括约肌,保留外括约肌(即Bacon术式)。合并左半肝脏切除12例,右半肝脏楔形切除6例,合并子宫阴道后壁切除(后盆腔清扫术)18例。

1.4 结肠-直肠(肛管)吻合方法

吻合方法采用支撑捆扎法和双吻合器法。充分游离肿瘤和直肠肛管,距离肿瘤下缘1~5 cm处上直角钳,用2%碘尔康棉球经肛管直肠腔内消毒与冲洗。支撑捆扎法:经肛门支撑捆扎式吻合方法:肿瘤上缘15 cm处切断近段结肠,将海绵囊支撑吻合管置入口侧结肠内8 cm左右,双七号丝线结扎一道,单七号丝线缝扎固定。直角钳下缘处切断远端直肠,充分扩肛后,距直肠或肛管断端0.5~1.0cm处用2号肠线全层内荷包缝合1周,肛门支撑吻合管及口侧结肠经盆腔肛管脱出,使缝合线和结扎相对贴附、缝合、固定支撑吻合管。术后10 d左右肛门支撑吻合管脱落。双吻合器吻合法:肛侧钉入闭合器,口侧荷包器荷包,吻合器直径33~35 mm,用吻合器完成吻合。

1.5 随访及统计学方法

用生命表法计算5年生存率,支撑捆扎法组629例随访3~150个月,其中失防44例,随访率93.0%。所有数据用SPSS12.0统计软件包分析。均值比较用t检验,计数资料用χ^2检验,用生命表法计算生存率,生存率曲线比较用log rank检验。

2 结果

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本组低位直肠癌保肛率 67.6%，手术死亡 2 例，其中 1 例因肺部感染、1 例死于心力衰竭。用支撑吻合管完成低位直肠癌保肛手术 518 例,吻合平面在齿线以下 55 例、齿线以上 0~2 cm 372 例、2 cm 以上 91 例。双吻合器完成吻合 100 例,吻合平面在齿状线以上 0~2 cm 72 例,2 cm 以上 28 例。

手术合并症:吻合器组吻合口漏 4%、支撑捆扎组吻合口漏 2.5%。以生命表法计算 5 年生存率:吻合器组 75%、支撑捆扎组 76.5%;局部复发率:吻合器组 5%、支撑捆扎组 3.2%;5 年生存率,局部复发率及手术并发症两组统计学分析无显著差异(P>0.05)。

3 讨论

3.1 低位直肠癌保肛手术适应症选择

低位直肠癌在确保根治前提下积极实施保肛手术是可行的[3]。病理类型、浸润深度、距齿状线的距离、盆腔淋巴结转移情况是决定能否实施保肛手术适应症的客观指标。病人肥胖程度、肌肉强度、盆腔宽窄、残留直肠长度与吻合平面高低是影响保肛手术完成的因素。

在不影响根治前提下,结合术者技术水平,考虑到患者术后的生存质量,选择保肛手术适应症。在低位直肠癌中确保下切缘未见癌细胞浸润,无盆腔软组织和淋巴结复发可能，保留部分肛管直肠环完整,术后排便功能良好者,可作为保肛手术绝对适应症。直肠癌保肛术后应加强随诊治疗,定期复查血 CEA,肛门指诊,盆腔 CT、MRI,注意有无吻合口,盆腔淋巴结,软组织复发,有无肝转移。本组术后随访结果比较,绝对保肛组和相对保肛组 5 年生存率,局部复发率无统计学差异。

3.2 保肛手术术式选择

直肠癌保肛手术方法较多,除经腹切除吻合以外有经腹经肛、经腹阴道、经腹骶骨、经腹耻骨、经腹后方切除吻合术。无论采取何种术式都必须完成口侧结肠 - 直肠(肛管)吻合术。吻合方法的选择应简便、完全、经济、损伤小、符合解剖生理、易于推广掌握、无术后并发症为宜。

双吻合器技术是理想的方法之一,扩大了低位直肠癌保肛手术适应症,可以完成低位,超低位前切除手术(距齿线 2 cm 内结肠 - 直肠肛管吻合术)。而骨盆较窄、肿瘤较大、病人肥胖往往影响手术完成。耻骨直肠肌上缘到肌间沟平面有时难以用双吻合器完成吻合，低位直肠保肛手术的吻合平面多位于此范围内。肛门支撑吻合管经肛门环扎式绍肠直肠(肛管)吻合术可以完成从耻骨直肠肌上缘到肌间沟任何平面的吻合,不受骨盆宽窄、病人肥胖、肌肉强度、直肠残端长度的影响。支撑吻合管具有吻合,扩张、止血、引流、防止吻合口漏的作用。避免了预防性横结肠造瘘,不残留吻合针和缝合线,术后排便功能恢复早。支撑捆扎吻合可以解决超低位吻合技术问题上比吻合器简单、易行,且吻合口漏发生率低。

3.3 低位直肠癌外科治疗 - 根治性与功能性问题

郁宝銘教授[4]提出保肛手术的成功率乃是当前衡量直肠外科医师水平的一个标准。本组资料 5 年生存率证明在低位直肠癌保肛手术不会影响根治的前提下,不同吻合方法对直肠癌病人预后无显著差异。

日本国立癌中心报道 [5] 低位直肠癌保肛率为 51%，本组保肛率 67.6%，距齿状线距离 0~2 cm 17.4%,2~4 cm 71.9%,4 cm 以上 94.1%。说明不能以肿瘤下缘距肛缘距离的单一因素决定是否保肛。

而关于直肠癌下切缘长度,我们以下切缘断端没有癌细胞浸润和无肠旁淋巴结转移为原则,结果证明下切缘长短和 5 年生存率及局部复发率无明显关系。浸透肠壁深肌层者宜行直肠全系膜切除。盆腔软组织切除范围超过直肠残端应呈 "w" 形切除，防止吻合口及周围软组织复发,直肠癌侵犯子宫阴道后壁合并脏器切除可达根治前提下,可以实施保肛手术。直肠同时有肝转移者,局部可以根治性切除前提下不影响保肛手术的实施。低位直肠癌侧方行扩大性盆腔清扫可有效防止淋巴结转移。术后排便功能和残留直肠长度有关,耻骨直肠肌对形成便意、控制排使具有重要作用,应注意修复耻骨直肠肌。

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Exhibit B

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Shock research in China attracted international attention

Professor Zhao Kesen was invited to give a speech at the International Conference on Rheology

At the “12th International Conference on Biorheology and the 5th International Conference on Clinical Hemorheology”, which was ended on June 2 in Chongqing, Professor Zhao Kesen, a Chinese representative, gave an academic report on “Hemorheological Events in Severe Shock”, which caused a great sensation among hundreds of international and domestic representatives participating in the conference.

In this report, a large number of data, images, and recordings were used to explain that the reason for the difficulty in restoring microcirculation low perfusion flow in severe shock is due to the blockage of capillaries by white blood cells, which makes it difficult for drugs to reach the already blocked capillaries and exert their effects. Restoring the reduced pulse pressure and pulsating blood flow during shock can flush out the white blood cells that have been blocked, restoring capillary perfusion. The traditional Chinese medicine polydatin plays the aforementioned role. When investigating the mechanism of shock induced intractable hypotension, it was found that the activation of potassium ion channels in the vascular smooth muscle, which leads to hyperpolarization of the cell membrane, is an important reason for the decreased response of blood vessels to contractile drugs. Potassium channel antagonists can restore vascular reactivity, and vasopressors can be used to treat intractable hypotension in shock, and as a result, he was the first to publish an article on “A New Approach to Use of Vascular Reactive Restorers in the Treatment of Severe Shock” in the internationally renowned journal “Shock”. After giving the report, several members of the National Academy of Sciences and Engineering, as well as several scholars, congratulated Professor Zhao. The President of the Conference, Professor Qian Xu, a member of the National Academy of Sciences and Engineering, held Professor Zhao's hands and said, “Your work was well done, and the report is also good.” Smith Shanbai, an academician of the National Academy of Engineering expressed sincere congratulations and cited Professor Zhao's work eight times in the subsequent conference reports.

Zhao Kesen is a doctoral supervisor of the Department of Pathology and Physiology at Guangzhou Southern Medical University (formerly the First Military Medical University) and one of the founders of the International Federation of Shock Societies (IFSS). Professor Zhao graduated from Harbin Medical University in 1959 and studied at the University of California, San Diego, USA, under the guidance of Professor Zweifach, the father of microcirculation. He is currently a member of the Academic Degrees Committee of the State Council, the Chairman of the Shock Professional Committee of the Chinese Society of Pathology and Physiology, a member of the International Federation of Shock Societies, and a member of the Asian Microcirculatory Alliance. He established China's first shock microcirculation key laboratory and trained a group of outstanding masters and doctoral talents, including Chief Scientists of the State Program 973 and winners of the National Outstanding Talent Foundation. He’s even won honorary titles such as Outstanding Instructor in Military Academies and First Generation Scientific and Technological Master in the General Logistics Department.

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Use of suture-free zipper in thyroid surgery

Hou Yizhao (Pinghai Center Health Center, Huidong County, Guangdong Province, Guangdong 516363 China)

Abstract: Objective To introduce a new non-invasive method for closing the thyroid surgical incision. **Method** A 12 cm long MEDISIP skin suture-free zipper manufactured by ATRAX was used to close the thyroid surgical incision, and its effect was observed. **Result** Fifteen patients underwent this method to close the surgical incision, all without infection, achieving beautiful wound healing, with small scars, and ideal results. **Conclusion** The suture-free zipper method is worth promoting and using in the suturing of thyroid surgical incisions.

Keywords: Thyroid gland; Surgical incision; Seam-free zipper

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In order to solve the issue of scars left by conventional silk suture incisions, especially due to factors such as delicate and exposed skin on the neck and face, rich blood circulation, and increased activity, the treatment of surgical wounds on the neck and face can have issues regarding cosmetic effects [1]. It is essential that there are no obvious scars left on the face after surgery, and the dots and lines should be coordinated. Therefore, from October 2001 to May 2004, a clinical study was conducted in our hospital on the non-invasive closure effect of thyroid surgical incisions using the new technique of suture-free zippers, and ideal results were achieved. Now a report is given as follows:

1 Data and methods

1.1 Clinical data

Fifteen patients underwent thyroid surgery, including 5 males and 10 females, aged between 20 and 60 years old. Two patients were diagnosed with primary hyperthyroidism and 13 patients with thyroid adenoma, with a disease course of 3 to 5 years.

1.2 Materials

The suture-free zipper was a MEDISIP skin suture-free zipper manufactured by Shanghai ATRAX, in Lot No. 041103, with a length of 12 cm. It is mainly used for closing surgical incisions, and has the advantages of convenient use, tight closure of incision, small postoperative scar, toxicity free, and no adverse reactions such as allergies.

1.3 Methods

After the thyroid surgery was completed and the subcutaneous tissues were sutured, the area around the incision was disinfected using 75% alcohol, and the skin to be bonded was flattened with gauze. The bottom of the zipper was folded outward in half, the uneven adhesive paper was removed from one side of the zipper, and the zipper was glued flat to the skin, so that the zipper teeth on this side was 0.5 cm from the edge of the incision. The zipper ends should be kept about 1-12 cm longer than the two ends of the incision. The other end of the zipper was bonded in the same way. The toothed forceps were used to align the incision edges while the other surgeon pulled the zipper together.

1.4 Efficacy observations

The closure time, postoperative incision infection rate, average hospital stay, and incision scar formation were observed as the indicators of efficacy.

2 Results

Among the 15 patients undergoing thyroid surgery, there was no postoperative incision infection or incision dehiscence. The average time to close the incision was 2.5 minutes, and the average hospital stay was 4 days. In the follow-up at 4 weeks after the surgery, the incision scars were small.

2.1 Typical cases

Patient 1, a male aged at 35 years old born in Pinghai, Huidong, was admitted to our hospital on December 13, 2001 with a left anterior cervical mass as the chief complaint for half a year. Half a year ago, the patient unintentionally discovered a red jujube-sized mass on the left anterior cervical area, with no pain and no sweat, with symptoms as palpitation, weakness, irritation, excessive eating, and easy hunger. The symptoms were not managed. For half a year, the tumor slightly increased, and the patient came to our hospital for ultrasonic B and thyroid function examination, which showed a left thyroid adenoma and ruled out hyperthyroidism.

Patient 2, a female aged at 21 years old born in Pinghai, Huidong, was admitted to our hospital in July 2003 due to the finding of an anterior cervical mass for half a month as the chief complaint. Before admission, the patient underwent ultrasonic B, electrocardiogram, chest X-ray, and thyroid function examination in another hospital, which showed a right thyroid cystadenoma, and ruled out other diseases such as hyperthyroidism.

The two typical patients mentioned above underwent adenoidectomy under cervical plexus anesthesia on the second day after admission, and the surgical process was smooth. ATRAX's 12 cm MEDISIP skincare suture-free zipper was used to close the incision. The incision healed well after the operation. The patients were discharged on the 4th day after surgery. The patients were followed up at 4 weeks and 1 year after the surgery, which showed that the incision scar was small, beautiful, and flat, with no tension.

3 Discussion

For many years, conventional silk suture has been used as the main method for intermittent suturing of the entire skin layer in surgical incision. However, there are disadvantages such as poor skin alignment, serious suture reaction, the need to remove the suture after surgery, large scar on the incision, and impact on aesthetics. There are reports [2, 3] that ZT mastic has achieved good results in clinical medical applications such as cosmetic surgery and the treatment of pediatric inguinal hernia. Therefore, based on the inspiration from ZT mastic, we investigated the clinical use of MEDISIP suture-free zipper instead of conventional surgery using silk suture to close the incision, to study its promotion and use in thyroid surgical incision suturing, and observe the clinical efficacy in 15 patients, achieving satisfactory clinical results, which was highly favored by doctors and patients. Our experience in clinical use is that: This method is simpler to operate, saves time, and has more obvious advantages compared to the conventional intermittent suture of full layer of skin using silk suture when the incision is longer. As it was only in contact with the surface of the skin and there was no stimulation from foreign objects caused by suture within the skin, it was easy to use and had no adverse reactions such as no toxicity. Moreover, the skin margin was tightly aligned and the gap was small, so the scar after the incision healing was not obvious, and it was especially suitable for cosmetic surgery. In addition, it was not required to remove the suture and change the dressing for the incision, which shortened the patient's hospital stay and improved the patient compliance. In the process of use, we hold that there are the following valuable experiences to learn from: ① It is better to use a straight incision, with a curvature of no more than 15 degrees; ② The length of the zipper should be 1-2 cm longer than both ends of the incision; ③ The distance between the teeth of the zipper on both sides and the edge of the incision is 0.5 cm to avoid causing the incision to flip inward or outward; ④ When suturing subcutaneous tissues, it is necessary to maintain the incision on both sides on the same plane. If the above points can be well noted and handled during surgery, the clinical effect will be more ideal.

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Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis

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Abstract: Objective To evaluate the therapeutic effects of nasal endoscopic surgery combined with multiple radiofrequency in the treatment of perennial allergic rhinitis. **Methods** Sixty-three patients with perennial allergic rhinitis whose symptoms failed to be controlled by medication received nasal endoscopic surgery for submucous resection of the nasal septum combined with radiofrequency ablation of the bilateral sphenopalatine foramen, anterior ethmoidal nerve, and inferior nasal concha. **Result** At 1 month after operation, the rate of excellent recovery was 92.1% (58/63), the efficacy rate was 7.9% (5/63), and the total efficacy rate was 100%. At 1 year after operation, the rate of excellent recovery was 88.9% (56/63), the efficacy rate was 7.9% (5/63), the rate of no efficacy was 3.2% (2/63), and the total efficacy rate was 96.8% (61/63). At 2 years after operation, the rate of excellent recovery was 82.6% (52/63), the efficacy rate was 12.7% (8/63), the rate of no efficacy was 4.8% (3/63), and the total efficacy rate was 95.2% (60/63). Compared with patients in the control group who underwent only nasal endoscopic surgery for submucous resection of the nasal septum, the total efficacy rate ($P < 0.01$ for excellent recovery + Efficacy) at 1 and 2 years after the surgery was significantly improved, with statistical significance. **Conclusion** Nasal endoscope combined with radio frequency may achieve good therapeutic effects on perennial allergic rhinitis with less adverse effects.

Key words: perennial allergic rhinitis; nasal endoscope; radiofrequency technique

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Nasal endoscopy combined with multiple radiofrequency for perennial allergic rhinitis

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Abstract: Objective To evaluate the therapeutic effects of nasal endoscopic surgery combined with multiple radiofrequency in the treatment of perennial allergic rhinitis. **Methods** Sixty-three patients with perennial allergic rhinitis whose symptoms failed to be controlled by medication received nasal endoscopic surgery for submucous resection of the nasal septum combined with radiofrequency ablation of the bilateral sphenopalatine foramen, anterior ethmoidal nerve, and inferior nasal concha. **Result** One month after operation, the rate of excellent recovery was 92.1% (58/63), efficacy rate of 7.9% (5/63), and total efficacy rate of 100%, which was 88.9% (56/63), 7.9% (5/63), and 96.8% (61/63) 1 year after operation, respectively, with 2 patients (3.2%) of the patients failed to respond to the treatment. Two years after the operation, the excellent rate, efficacy rate, and total effective rate was 82.6% (52/63), 12.7% (8/63), and 95.2% (60/63), respectively, with 3 patients failed to obtain good recovery. **Conclusion** Nasal endoscope combined with radio frequency may achieve good therapeutic effects on perennial allergic rhinitis with less adverse effects.

Key words: perennial allergic rhinitis; nasal endoscope; radiofrequency technique

There are many surgical treatments for perennial allergic rhinitis, but a single treatment method has a higher rate of long-term recurrence. From March 1998 to January 2003, various methods such as nasal endoscopic surgery for submucous resection of the nasal septum combined with radiofrequency ablation of the sphenopalatine foramen, anterior ethmoidal nerve, and inferior nasal concha were used in our department for the treatment of 63 patients with perennial allergic rhinitis. After some time, patients were followed up, and the results were good. Now a report is given as follows.

1 Data and Methods

1.1 Clinical data

Sixty-three patients were admitted to our hospital, including 41 males and 22 females, aged at 19-60 years, with an average age of 30.5 years and a disease course of 1-3 years. All the patients complied with the diagnostic criteria for perennial rhinitis [1], and were accompanied by deviated nasal septum. They all received systemic and local treatment with antihistamines and corticosteroids, but the efficacy was not satisfactory. The 63 patients were randomly selected as the treatment group according to the admission period, and another 20 patients with the same disease who underwent nasal septum surgery alone were selected as the control group. The patients in both groups were inpatients.

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1.2 Treatment methods

The patients in the treatment group were put in the supine position and treated with 2% dicaine and 1/1000 adrenaline cotton pad for surface anesthesia and contraction of the nasal mucosa. Under nasal endoscopy, the SHP-I five-organ radiofrequency therapy instrument (manufactured by Guangzhou Medical Instrument Factory) was firstly used, with the Level 3 intensity selected, and the firing head aligned with the sphenopalatine foramen on both sides, to carry out radiofrequency at the anterior upper part of the nasal septum on both sides (the radiofrequency points on both sides were staggered by 5 mm to prevent perforation of the nasal septum), and at the anterior upper part of the lateral wall of the nasal cavity, the nasal ridge, and the anterior part of the inferior nasal turbinate (for those with severe hypertrophy of the inferior turbinate, partial resection of the inferior turbinate was performed). It was advisable to have a white ring around the radiofrequency head. The anterior part of the inferior turbinate could undergo radiofrequency at 3-5 points, and the nasal ridge and lateral wall of the nasal cavity could be cut to the periosteum using a radiofrequency knife. Further submucosal resection of the nasal septum was performed, and uncinate process resection, sinus opening, lateral part resection of the middle turbinate or nasal polypectomy were performed for those who had hypertrophy of the uncinate process, sinusitis, hypertrophy or polypoid lesion of the middle turbinate, or nasal polyps. After the surgery, both nasal cavities were filled with expanded sponges, and the fillers were removed 48 hours later. For the patients in the control group, only submucosal resection of the nasal septum was performed.

1.3 Evaluation criteria for efficacy

The efficacy was evaluated according to the evaluation criteria for allergic rhinitis [1].

1.4 Statistical processing

The efficacy between the two groups was compared using the *t* test.

2 Results

Patients in the experimental group experienced worsening of nasal congestion and runny nose at 1-3 days after the surgery. On the 4th day, the symptoms were gradually relieved as the white pseudomembrane was cleared. After 3-4 weeks, the symptoms disappeared. No complications such as perforation of the nasal septum, decreased olfactory function, and dry nose and eyes were observed.

All the patients were followed up for 2 years, and no antihistamines or corticosteroids were used for treatment during the observation period.

One month after the surgery: The rate of excellent recovery was 92.1% (58/63), the efficacy rate was 7.9% (5/63), and the total efficacy rate was 100%; in the control group, the rate of excellent recovery was 40% (8/20), the efficacy rate was 50% (10/20), the rate of no efficacy was 10% (2/10), and the total efficacy rate was 90% (9/10).

One year after the surgery: The rate of excellent recovery was 88.9% (56/63), the efficacy rate was 7.9% (5/63), the rate of no efficacy was 3.2% (2/63), and the total efficacy rate was 96.8% (61/63); in the control group, the rate of excellent recovery was 30% (6/20), the efficacy rate was 40% (8/20), the rate of no efficacy was 30% (6/20), and the total efficacy rate was 70% (7/10).

Two years after the surgery: The rate of excellent recovery was 82.6% (52/63), the efficacy rate was 12.7% (8/63), the rate of no efficacy was 4.8% (3/63), and the total efficacy rate was 95.2% (60/63); in the control group, the rate of excellent recovery was 20% (4/20), the efficacy rate was 40% (8/20), the rate of no efficacy was 40% (8/20), and the total efficacy rate was 60% (6/10).

According to statistical analysis, there was a significant difference in the total efficacy rate between the two groups at 1 and 2 years after the surgery ($P < 0.01$).

3 Discussion

Numerous studies have shown that the parasympathetic nerves in the nasal cavity include the parasympathetic fibers of the pterygoid canal nerves and anterior ethmoidal nerves, independent cholinergic ganglia in the inferior turbinate mucosa, and some neurovascular peptides (vasoactive peptides and substance P) in the unmyelinated sensory nerve fiber endings of the nasal cavity, which regulate the vascular dilation and contraction of the nasal mucus membrane and the secretion of glands [2-4]. The treatment of perennial allergic rhinitis mainly relies on medication, but for cases with abnormal nasal structures, medication alone often has poor efficacy. Reasonable surgical interventions should be carried out based on the specific structural characteristics. Due to the complex innervation of the nasal mucosal nerves, radiofrequency technique was used to process multiple parts in the nasal cavity. In two cases, the radiofrequency ablation of sphenopalatine foramen was used to block the posterior parasympathetic fibers of the sphenopalatine nerve, and the medial and lateral branches of the anterior ethmoidal nerve were damaged by radiofrequency ablation of the anterior upper part of the nasal septum and the lateral wall of the nasal cavity [3, 5]. In addition, the inferior turbinate contains cholinergic nerves and their parasympathetic plexus [6], so 3-5 points were selected for radiofrequency ablation at the anterior part of the inferior turbinate.

The use of radiofrequency technique completely blocks the parasympathetic pathway of the nasal mucosa, reduces the vascular tension, reduces glandular secretion, and thus achieves the therapeutic purposes [7]. Pterygoid canal neurotomy alone or/and anterior ethmoidal neurotomy or inferior turbinate treatment preserves 1-2 parasympathetic pathways in the source and distribution of parasympathetic nerves in the nasal mucosa. However, due to the presence of allergic reaction arcs, the postoperative effect is poor and the recurrence rate is high [8, 9]. For the patients in this group, all the nasal mucosal parasympathetic pathways, including the posterior ganglionic fibers of the sphenopalatine nerve, the parasympathetic fibers of the anterior ethmoidal nerve, and the cholinergic ganglia within the inferior turbinate mucosa were blocked. The allergic reflex arc was completely relieved, thus achieving stable and reliable results.

In addition, after correcting the deviation of the nasal septum, the imbalance stimulation of bilateral nasal cavities is eliminated, the sensory-parasympathetic reflex is reduced, and the nasal ventilation and drainage are improved, which is beneficial for the benign prognosis of the disease. Through the joint action of multiple links, the therapeutic effect of perennial allergic rhinitis is significantly improved.

The case study of this experimental group has demonstrated the following advantages: (1) Accurate localization of the surgical area, especially the precise effect of nerve blockade, while avoiding accidental injury to the adjacent important tissues. (2) It is easy to identify and eliminate other nasal symptoms that affect the therapeutic effect, such as hypertrophy of the uncinate process, hypertrophy of the middle turbinate, polypoid lesion, sinusitis, nasal polyps, etc. (3) Radiofrequency therapy is the use of high-frequency electromagnetic waves to coagulate and denature tissue proteins. The temperature at the radiofrequency ablation site is low (60-80°C). Without the damage from high temperature to the surrounding tissues, it will not cause acute perforation of blood vessels and massive bleeding [10]. There is no carbonization, vaporization, or smoke generation, the surgical field is clear, and it is easy for continuous operation.

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Research on Comprehensive Intervention for Population with Community Chronic Non-Communicable Diseases

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Abstract: Objective To control the risk factors of chronic non-communicable diseases in community population and reduce the incidence rate of chronic non-communicable diseases by implementing community-based comprehensive population intervention measures. **Method** Based on the baseline survey of community population health, a monitoring system is established for chronic non-communicable diseases, health education and promotion are promoted, and intensified intervention and drug intervention are implemented for high-risk populations and current patients. **Result** The lifestyle of the community population has been improved, with lower levels of hypertension and hyperglycemia, and a significant reduction in cardiovascular and cerebrovascular events. **Conclusion** Comprehensive intervention measures for community population are effective ways to control chronic non-communicable diseases in the community, and have a wide range of application prospects.

Keywords: Community; Chronic non-communicable diseases; Intervention

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Xiaohuangpu Community in Shunde District is located in the center of the Pearl River Delta, with a community area of 6.6 square kilometers and a population of 7,497. In 1999, a baseline health survey was conducted among middle-aged and above residents in the community, showing a high level of risk factors for various cardiovascular and cerebrovascular diseases among the residents [1]. Chronic non-communicable diseases, mainly cardiovascular and cerebrovascular diseases, have become major diseases threatening the health and life of the residents. In this study, graded interventions on chronic non-communicable diseases were conducted among the community residents from 2001 to 2004, for the purpose of evaluating the effects of implementing disease intervention and control measures in the community in preventing and treating chronic non-communicable diseases.

1 Subjects and Methods

1.1 Subjects

Residents who have resided in Xiaohuangpu Community for more than 5 years and are over 35 years old.

1.2 Research methods

1.2.1 *Improve the organizational structure and establish a monitoring system* Led by the town government, assisted by the neighborhood committee, the town hospital and Xiaohuangpu community health service station jointly formed a community health service leading team and working team, and formulated the relevant policy documents to promote the implementation of the work. A community computer information monitoring system for chronic non-communicable diseases was established, and the various chronic non-communicable diseases were filed separately for easy tracking and follow-up.

1.2.2 *Population survey* In 2001, a baseline survey on the health of the entire population was conducted, and on this basis, a 3-year community intervention and control program for chronic non-communicable diseases was carried out. In 2004, an outcome survey was conducted, and the general information on the survey subjects was provided (Table 1). The survey content included a questionnaire on medical history and lifestyle, blood pressure, height, weight, chest circumference, hip circumference, blood lipid and blood sugar, electrocardiogram, chest X-ray, and examinations of surgery and medicine to screen chronic non-communicable diseases and related risk factors, and carry out comparison before and after intervention. At the same time, personal and family health records were established. Its quality control was guided by experts from the Department of Epidemiology, Institute of Cardiovascular Diseases, Guangdong Provincial People's Hospital, who participated in the investigation. The quality control and data entry personnel received pre-investigation training and assessment.

Table 1. General information of community survey subjects

	Population at baseline	Population at outcome	Follow-up rate (%)
Male	1,676	1,378	82.2
Female	2,407	2,133	88.6
Total	4,083	3,511	85.9

1.2.3 *Personnel training* The relevant personnel of the town hospital and the medical staff of the Xiaohuangpu community health service station received strengthened training, developed into general practitioners and community medical professionals, to establish a team that mastered the investigation, monitoring, and intervention methods of chronic non-communicable diseases.

1.3 Intervention methods

1.3.1 *Health education* Health education and health promotion were carried out for the whole population, and board newspapers, leaflets, health lectures, health hotlines, hypertension and diabetes homes and other forms of education were used to guide the change from unhealthy lifestyles.

1.3.2 *Intensive intervention for risk factors in high-risk populations* Individuals with a blood pressure level between SBP of 130-139 mmHg and/or DBP of 85-89 mmHg, family history of positive coronary heart disease, stroke, hypertension, body mass index (BMI) > 25, excessive alcohol consumption, smoking habits, fasting blood glucose levels between 6-7 mmol/L, and dyslipidemia were required to quit smoking and limit alcohol consumption, have a reasonable dietary structure, such as limiting salt and sugar, reducing fat and calorie intake, and engage in regular aerobic exercise, such as walking, shadow boxing, jogging, weight loss, etc.

1.3.3 *Control and management of current patients* Conventional drug intervention were carried out for individuals with hypertension (SBP ≥ 140 mmHg and/or DBP ≥ 90 mmHg) [2], diabetes (FBS ≥ 7.0 mmol/L and/or postprandial blood glucose ≥ 11.1 mmol/L) [3] and abnormal blood lipids (TC ≥ 5.72 mmol/L and/or TG ≥ 1.70 mmol/L and/or LDL-C ≥ 3.64 mmol/L and/or HDL-C ≤ 0.91 mmol/L) [4], those who failed to reach the standard after doing exercises and controlling diet, and patients with coronary heart disease and stroke, unless drug intervention was used, and antihypertensive, hypoglycemic, lipid-lowering, anticoagulant, and vasodilator drugs were selected according to different situations, and regular follow-up was carried out

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once every 1-3 months.

1.4 Statistical Analysis

The SPSS 11.5 statistical software by Windows was used for data processing.

2 Results

After the interventions, the community residents changed their unhealthy behaviors and shifted towards a healthy lifestyle. The rate of behaviors such as regular exercise was increased, and the rate of compliance with medication advice was increased (Table 2), which was significantly higher than those before the interventions ($P < 0.05$). However, smoking, drinking alcohol, and overweight had no significant difference before and after the interventions ($P < 0.05$). The intake of salt and edible oil was decreased, and the intake of fat and fewer calories was somewhat decreased.

Table 2. Changes of risk factors and lifestyle among the residents (%)

Item	Baseline		Outcome	
	Male (%)	Female (%)	Male (%)	Female (%)
Smoking	58.4	4.7	55.8*	4.1*
Alcohol intake	66.1	16.2	65.3*	15.8*
Overweight	20.8	21.4	17.6*	19.7*
Dyslipidemia	49.6	35.7	36.2**	19.6**
Hypertension	20.1	11.5	15.9**	6.2**
Hyperglycemia	5.3	5.8	2.8**	2.1**
High salt diet	52.7	50.3	46.3**	41.8**
Regular exercise	8.7	38.6	26.1**	46.4**
Medication on time	38.2	49.7	59.3**	72.4**

With the baseline compared to the outcome, * $P > 0.05$, ** $P < 0.05$

After intervention, there was a significant decrease in hypertension, high blood sugar levels, and abnormal blood lipid levels in women, and there was a significant difference compared to those before intervention ($P < 0.05$), while there was no significant difference in abnormal blood lipid levels in men before and after intervention ($P > 0.05$). A monitoring system for cardiovascular and cerebrovascular disease incidences and deaths was established and put into routine operation. According to the monitored results, from 2001 to 2004, the incidence of cardiovascular and cerebrovascular events such as myocardial infarction, angina pectoris, and stroke showed a decreasing trend, and the mortality rate was decreased (Figure 1).

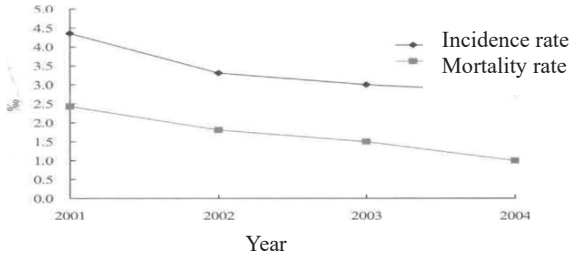

Figure 1. Monitored results of incidence and death of community cardiovascular and cerebrovascular events

3 Discussion

In the 1990s, deaths from cardiovascular diseases accounted for about one-third of the total mortality rate in China. According to the forecast by the World Health Organization, non-communicable diseases will account for 79% of the causes of death in China by 2020, with cardiovascular and cerebrovascular diseases ranking in the first place[1].

Community intervention is a huge social project, and comprehensive intervention for populations with chronic non-communicable diseases through the community first relies on the improvement of the organizational structures. This community is led by the government, with the participation of the relevant units and departments, assisted by the Xiaohuangpu neighborhood committee, and with the town hospital as the main force. The Xiaohuangpu community health service station specifically executes various tasks, and leaders and staff of the relevant departments form leading and working teams. A specialized office is established within the town hospital to formulate the relevant policy documents and implementation plans, forming a supportive implementation environment and management model related to the intervention and control of chronic non-communicable diseases. The baseline survey of community residents' health is the basis. In the past three years, systematic community intervention has been carried out in Xiaohuangpu Community, and patients have mastered 72.0% of the relevant knowledge about hypertension, diabetes, coronary heart disease and stroke. The disease management rate reached 69.0%.

The results of this study show that community intervention for chronic non-communicable diseases is effective and cannot be replaced with other methods. Some cities in China, such as Beijing and Tianjin, have also achieved good results in reducing the incidence rate and mortality after carrying out hierarchical management of population risk factors and chronic non-communicable diseases as well as treatment supervision for patients in urban sub-districts [5, 6]. This study also supports the above results. In addition, a health network management system covering the entire community plays an important role in disease intervention and control for the residents.

The intervention of chronic non-communicable diseases is a challenging systematic project that requires the joint support of individuals, families, governments, health departments, and various sectors of society. The implementation of this project shows that community intervention and control of chronic non-communicable diseases is an effective approach. As an intervention project, it is still difficult to observe many effects within 3 years, which requires finding more sensitive indicators for evaluation. In addition, how to ensure the long-term and sustainable intervention of chronic non-communicable diseases is also a challenging and long-term task.

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Value of Low Anastomosis with Bracing and Binding Method in Anus-preserving Surgery for Low Rectal Cancer

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Abstract: Objective To evaluate the value of low anastomosis with bracing and binding method in anus-preserving surgery for low rectal cancer. **Method** 629 cases were selected from 929 cases of low rectal cancer for anus-preserving surgery. The surgical methods included double stapler anastomosis (n = 101) and transanal colon-rectum bracing and binding (anal) anastomosis (n = 528). Surgical resection scope: Same as Miles surgery, except for the residual anal rectum (anal), levator ani muscle, anal medial and lateral sphincter, adipose tissue of the ischiocecal fossa, and perianal skin. **Result** The anus-preserving rate of low rectal cancer was 67.69%. After the radical surgery, 584 cases were followed up for more than 5 years. Five-year survival rate: 75% in the stapler group and 76.59% in the bracing and binding group. Local recurrence rate: 5% in the stapler group and 3.2% in the bracing and binding group. Surgical complications: 4% of anastomotic leakage in the stapler group; 2.5% of anastomotic leakage in the bracing and binding group. There was no significant difference in the 5-year survival, local recurrence rate, and postoperative complications between the two anus-preserving methods ($P > 0.05$). **Conclusion** In low rectal cancer, those for whom the incisional colon-rectal (anal) anastomosis could be achieved while ensuring radical resection and postoperative defecation function can be selected as indications for anus-preservation. The choice of anus-preserving surgery is to use stapler technique if the anastomosis is in the pelvic cavity, and to use the bracing and binding anastomosis if the anastomosis is from the upper edge of the puborectal muscle to the intermuscular sulcus. Transanal bracing and binding anastomosis can replace stapling to complete ultra-low and colon-rectal (anal) anastomosis, and there is no difference in the prognosis of patients between the two anastomosis methods.

Keywords: Rectal cancer; Low; Anus-preserving; Surgery

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Rectal cancer is one of the common malignant tumors, ranking in the fourth position in the incidence rate of malignant tumors in China. More than 70% of rectal cancers are low rectal cancers (below the peritoneal reflexion) [1]. In recent years, due to the promotion and use of double stapler technique (DST), the rate of anus-preserving surgery for low rectal cancer has been increased, and the range of indications for anus-preserving surgery for rectal cancer has been widened. How to reasonably choose the surgical indications for preserving the anus in low rectal cancer and choose the best reconstruction method is an issue worth investigation. The following report is given based on our experience and methods of preserving the anus in low rectal cancer.

1 Clinical data

1.1 General data

From February 1992 to May 2005, 929 cases of low rectal cancer were surgically treated, and 629 cases were selected for anus-preserving surgery. There were 332 males and 296 females, aged at 54 ± 4.8 (16-84) years old. Among them, 204 cases had a distance of 4 cm from the lower edge of the tumor to the anal edge, 107 cases had a distance of 4-6 cm, and 90 cases had a distance of 6-8 cm. Among them, 528 cases of anus-preserving surgery underwent the bracing and binding method and 101 cases of anus-preserving surgery underwent the double stapler technique. There was no statistically significant difference in gender, age, tumor location, pathological type, and Dukes staging between the two groups.

1.2 Clinical pathological data

In terms of the general types, there were 107 cases of raised type, 78 cases of discoid type, 352 cases of localized ulcer type, 76 cases of infiltrative ulcer type, and 6 cases of diffused infiltrative type; Histological classification: There were 52 cases of papillary adenocarcinoma, 196 cases of well differentiated adenocarcinoma, 319 cases of moderately differentiated adenocarcinoma, 33 cases of poorly differentiated adenocarcinoma, and 19 cases of mucinous carcinoma. Modified Dukes staging in China [2]: There were 8 cases of Stage A0, 30 cases of Stage A1, 194 cases of Stage A2, 56 cases of Stage B1, 92 cases of Stage C1, 96 cases of Stage C2, and 9 cases of Stage D3.

1.3 Scope of excision for anus-preserving surgery

On the basis of total mesorectal excision (TME), upper and lateral lymph node dissection and soft tissue resection were performed to the same extent as that of Miles surgery. Resection of the proximal intestinal tract and mesentery 15 cm above the upper edge of the tumor, as well as 1-5 cm at the distal end of the tumor was carried out. During the surgery, lateral lymph node dissection was performed for those who were diagnosed with pararectal lymph node metastasis, tumor occupation of the intestinal cavity for ≥ 1/2 circumference, or invasion of the lateral rectal ligament. The anal rectal canal, levator ani muscle, medial and lateral anal sphincter, adipose tissue of the ischiorectal fossa, and perianal skin were preserved. In some cases, the medial sphincter was removed and the lateral sphincter was preserved (i.e., the Bacon technique). There were 12 cases of combined left hemihepatectomy, 6 cases of right hemihepatectomy, and 18 cases of combined posterior uterovaginal wall hysterectomy (posterior pelvic dissection).

1.4 Colorectal (anal) anastomosis method

For the anastomosis method, the bracing and binding method and the double stapler technique were used. The tumor and rectal canal were fully freed, a pair of right angle forceps was placed at a distance of 1-5 cm from the lower edge of the tumor, and the anal canal and rectal cavity were disinfected and rinsed using 2% LIRCON cotton balls. Bracing and binding method: Transanal bracing and binding anastomosis method: Cut off the proximal colon at a distance of 15 cm from the upper edge of the tumor, place the sponge sac bracing anastomosis tube about 8 cm inside the opening of the side of the colon, bind with a double #7 silk suture, and fix with a single #7 silk suture. Cut off the distal rectum at the lower edge of the right-angle forceps, fully expand the anus, and suture the entire layer with #2 intestinal suture at a distance of 0.5-1.0 cm from the rectal or anal canal end in a loop using the purse-string technique. The anus was braced with the anastomosis tube and the opening of the side of the colon was protruded through the pelvic anal canal, making the suture and ligation relatively attached, sutured, and fixed to support the anastomosis tube. At about 10 days after the surgery, the anal bracing anastomosis tube fell off. Double stapler anastomosis technique: The stapler was nailed into the anal side, and purse-string suturing was carried out for the side opening with a purse-string suturing device. The diameter of the stapler was 33-35 mm, and the anastomosis was completed with the stapler.

1.5 Follow-up and statistical methods

The 5-year survival rate was calculated using the life table method. The 629 patients in the bracing and binding group were followed up for 3-150 months, among whom 44 were not available for follow-up, with a follow-up rate of 93.0%. All the data were analyzed using the SPSS 12.0 statistical software package. The t test was used for mean comparison, the x^2 test was used for numeration data, the survival rate was calculated using the life table method, and the log rank test was used for survival curve comparison.

2 Results

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The anus-preserving rate of low rectal cancer in this study was 67.6%, with 2 deaths in the surgery, including 1 case of death due to lung infection and 1 case of death due to heart failure. Anus-preserving surgery for low rectal cancer was completed in 518 cases using a bracing anastomosis tube, with the anastomotic plane below the dentate line in 55 cases, at 0-2 cm above the dentate line in 372 cases, and at over 2 cm above the dentate line in 91 cases. Double staplers were used to complete the anastomosis in 100 cases, with the anastomosis plane at 0-2 cm above the dentate line in 72 cases and at over 2 cm in 28 cases.

Surgical complications: Anastomotic leakage occurred in 4% of the patients in the stapler group, and anastomotic leakage occurred in 2.5% of the patients in the bracing and binding group. The 5-year survival rate was calculated using the life table method: 75% in the stapler group and 76.5% in the bracing and binding group; Local recurrence rate: 5% in the stapler group and 3.2% in the bracing and binding group. There was no significant difference in the 5-year survival rate, local recurrence rate, and surgical complications between the two groups ($P > 0.05$).

3 Discussion

3.1 Selection of indications for anus-preserving surgery for low rectal cancer

It is feasible to actively implement anus-preserving surgery for low rectal cancer on the premise of ensuring radical treatment [3]. The pathological type, depth of infiltration, distance from the dentate line, and pelvic lymph node metastasis are objective indicators that determine the indications for anus-preserving surgery. The degree of obesity, muscle strength, pelvic width, residual rectal length, and anastomosis level of patients are factors that affect the completion of anus-preserving surgery.

On the premise of not affecting radical surgery, combined with the technical level of the surgeon and considering the patient's postoperative quality of life, the indications for anus-preserving surgery are selected. In low rectal cancer, ensuring no infiltration of cancer cells at the lower incisal margin, no possibility of recurrence in the pelvic soft tissues or lymph nodes, maintaining the integrity of partial anal and rectal rings, and having good postoperative defecation function can be absolute indications for anus-preserving surgery. After anus-preserving surgery for rectal cancer, follow-up treatment should be strengthened, with regular follow-up of blood CEA, digital rectal examination, pelvic CT, MRI, and attention to the presence of anastomoses, pelvic lymph nodes, soft tissue recurrence, and liver metastasis. After comparing the postoperative results in this study, there was no statistically significant difference in the 5-year survival rate and local recurrence rate between the absolute anus-preserving group and the relative anus-preserving group.

3.2 Selection of surgical procedures for anus-preserving

There are many methods for preserving the anus in rectal cancer, and in addition to transabdominal resection and anastomosis, there is transabdominal and anal, transabdominal and vaginal, transabdominal and sacral, transabdominal and pubic, and transabdominal posterior resection and anastomosis. Regardless of the surgical procedure used, it is necessary to complete the incisional colon-rectal (anal) anastomosis. The selection of anastomosis methods should be simple, complete, economical, minimally invasive, in line with anatomical physiology, and easy to promote and master, with no postoperative complications.

The double stapler technique is one of the ideal methods, which widens the range of indications for anus-preserving surgery in low rectal cancer and can complete low and ultra-low anterior resection surgery (colon-rectal anal anastomosis within 2 cm from the dentate line). However, narrow pelvis, large tumor, and obesity often affect the completion of surgery. Sometimes it is difficult to complete the anastomosis from the upper edge of the puborectal muscle to the plane of the intermuscular sulcus using a double stapler, and the anastomosis plane for low rectal preserving surgery is often within this range. The anal bracing anastomosis tube can be used through the anal ring ligation colon-rectum (anal) method to complete the anastomosis from the upper edge of the puborectal muscle to any plane of the intermuscular sulcus, without being affected by the pelvic width, patient obesity, muscle strength, or rectal stump length. The bracing anastomosis tube has the function of anastomosis, dilation, hemostasis, drainage, and preventing anastomotic leakage, avoiding preventive transverse colostomy without residual anastomotic needles and sutures, resulting in early recovery of defecation function after the surgery. Bracing and binding anastomosis can solve the issue of ultra-low level anastomosis technique, which is simpler and easier to operate than staplers, and has a low incidence of anastomotic leakage.

3.3 Surgical treatment of low rectal cancer - radical and functional issues

Professor Yu Baoming [4] proposed that the success rate of anus-preserving surgery is currently a standard of measure of the quality of a of rectal surgeon. The 5-year survival rate in the data in this study demonstrates that different anastomosis methods have no significant difference in the prognosis of rectal cancer patients, provided that the anus-preserving surgery for low rectal cancer does not affect radical surgery.

The National Cancer Center Japan reported [5] that the anus-preserving rate for low rectal cancer was 51%. In this study, the anus-preserving rate was 67.6%, and the distance from the dentate line was 0-2 cm in 17.4%, 2-4 cm in 71.9%, and over 4 cm in 94.1%, respectively. It indicates that the distance between the lower edge of the tumor and the anal edge cannot be used as a single factor to determine whether to preserve the anus.

Regarding the length of the lower cutting edge of rectal cancer, we adhere to the principle of no cancer cell infiltration at the cutting edge and no peri-intestinal lymph node metastasis. The results demonstrate that the length of the lower cutting edge is not significantly related to the 5-year survival rate and the local recurrence rate. Patients who have penetration in the deep muscular layer of the intestinal wall should undergo total mesorectal excision. If the scope of pelvic soft tissue resection goes beyond the rectal stump, it should be removed in a "W" shape to prevent recurrence in the anastomotic site and surrounding soft tissues. If the rectal cancer invades the posterior wall of the uterus and vagina, and organ resection is feasible for radical treatment, anus-preserving surgery can be performed. For patients with simultaneous liver metastasis in the rectal cancer, the implementation of anus-preserving surgery is not influenced by the condition that local radical resection is feasible. Extended pelvic dissection on the side of low rectal cancer can effectively prevent metastasis to the lymph node. The postoperative defecation function is related to the length of the residual rectum. The puborectal muscle plays an important role in forming defecation and controlling defecation, and attention should be paid to repairing the puborectal muscle.

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