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·临床研究·

# 咀嚼口香糖促进腹腔镜术后肛门排气排便

白润芳[1],杨晓梅[2],张 帅[2],施多芹[2],张玉莲[3] (1.陕西省人民医院产科,陕西 西安 710068;2.陕西省人民医院妇科,陕西 西安 710068;3.陕西省人民医院护理部,陕西 西安 710068)

[摘 要] **目的** 观察设计严格的咀嚼口香糖形式对于腹腔镜术后首次肛门排气、排便等的影响,调查咀嚼口香糖的实际依从情况。**方法** 选取2016年8月至12月在陕西省人民医院妇科住院行腹腔镜手术患者106例,按照手术名称分层随机抽样分为口香糖组和对照组。口香糖组53例,术前对患者及家属进行关于口香糖咀嚼的原理及要求讲解,选用木糖醇口香糖,术后2 h开始咀嚼,每次咀嚼2~3条,每分钟约咀嚼30次,每次咀嚼15~20 min,每天7:00至22:00间隔2 h,其余时间间隔不得超过3 h,直至排气;对照组53例按常规护理,术后6 h开始少量饮水,渐进饮食;2组其他饮食指导、医疗护理措施均相同。比较2组术后的首次肛门排气时间、排便时间、腹胀发生率和术后住院时间,调查咀嚼口香糖的实际依从度。**结果** 口香糖组的首次肛门排气时间和首次排便时间分别为(19.60±7.59)h、(36.77±17.16)h,对照组首次肛门排气时间和首次排便时间分别为(33.79±10.54)h、(53.25±16.92)h,2组比较差异均有统计学意义($P<0.05$);口香糖组无腹胀发生,对照组腹胀8例(15.1%),差异有统计学意义($P<0.05$);口香糖组和对照组术后住院时间分别为(3.94±1.87)d、(4.42±1.26)d,差异无统计学意义($P>0.05$);咀嚼口香糖的实际依从情况调查,入选53例,实际完成48例(90.6%),实际咀嚼次数平均(4.39±1.35)次,实际咀嚼时间平均每次持续(16.16±2.05)min,实际咀嚼间隔时间平均(2.38±0.26)h。**结论** 设计良好的术后咀嚼口香糖形式可以明显缩短腹腔镜术后肛门排气、排便时间,降低术后腹胀发生率。

[关键词] 口香糖;妇科;腹腔镜;肛门排气;术后腹胀
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## Chewing gum promotes anus exhaust and defecation after laparoscopic operation

BAI Run-fang[1], YANG Xiao-mei[2], ZHANG Shuai[2], SHI Duo-qin[2], ZHANG Yu-lian[3] (1. Department of Obstetrics, Shaanxi Provincial People's Hospital, Xi'an Shaanxi 710068, China; 2. Department of Gynecology, Shaanxi Provincial People's Hospital, Xi'an Shaanxi 710068, China; 3. Department of Nursing, Shaanxi Provincial People's Hospital, Xi'an Shaanxi 710068, China)

**Abstract: Objective** To observe the effect of strict designed form for chewing gum on the first anus exhaust and defecation after laparoscopic surgery, and the actual compliance of chewing gum was investigate. **Methods** Totally 106 patients with abdominal operation in gynaecology department of Shaanxi Provincial People's Hospital from August to December 2016 were classified into chewing gum group and control group according to stratified random sampling. Chewing gum group had 53 cases, and the principle and requirement of chewing gum in

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patients and relatives were explained before operation. The xylitol chewing gum was chosed and chewed 2 to 3 gums in the 2 hours after operation, chewed about 30 times every minute and last for 15 to 20 minutes each time. From 7: 00 to 22: 00 the interval was 2 hours, and the interval at the rest time must not exceed 3 hours until exhaust. Fifty-three cases in control group received routine nursing, and started to drink a small amount of water 6 hours after operation, and gradually started to eat. Other dietary guidance and medical care measures were identical in both groups. Compared the first anus exhaust time, defecation time, abdominal distension and postoperative hospitalization time in two groups, and the actual compliance of chewing gum was investigated. **Results** The first anus exhaust time and the first defecation time of chewing gum group were (19.60 ± 7.59) hours and (36.77 ± 17.16) hours respectively, while those of the control group were (33.79 ± 10.54) hours and (53.25 ± 16.92) hours, and the differences were statistically significant ($P < 0.05$). No abdominal distension occurred in chewing gum group, 8 cases (15.1%) in control group had abdominal distension, the difference was statistically significant ($P < 0.05$). The postoperative hospitalization time of chewing gum group and control group were (3.94 ± 1.87) days and (4.42 ± 1.26) days respectively, and the difference was statistically significant ($P > 0.05$). The actual compliance investigation of chewing gum was selected in 53 cases with the actual completion of 48 cases (90.6%). The averaged actual chewing number was (4.39 ± 1.35) times, the averaged actual chewing time in each duration was (16.16 ± 2.05) minutes, the average actual chewing interval was (2.38 ± 0.26) hours. **Conclusion** The well designed form of chewing gum postoperative can shorten the postoperative anus exhaust and defecation time, and it can reduce postoperative abdominal distention.

**Keywords**: gum; gynecology; laparoscopy; anus exhaust; postoperative abdominal distention

近年来,腹腔镜在子宫切除、肌瘤剔除等妇科手术中应用广泛,作为一种微创手术,其具有创伤小、免疫干扰小、出血少、术后恢复快等优点[1],由于麻醉、$CO_2$行人工气腹、手术牵拉、疼痛、胃肠道应激等原因易造成不同程度肠麻痹。对于开腹手术,咀嚼口香糖作为一种假饲形式,可有效促进术后胃肠蠕动和加速胃肠功能恢复,其效果已得到公认[2],但对于咀嚼口香糖是否促进腹腔镜术后排气的研究结果不一致。曹廷宝等[1]、李肖珂等[3]、Husslein 等[4]研究认为可以促进肠蠕动,使术后首次排气、排便时间提前,促进胃肠功能恢复;Hwang 等[5]研究认为术后首次排气时间缩短不明显,但缩短了术后住院时间;Forrester 等[6]、Su'a 等[7]、任彦等[8]则认为术后咀嚼口香糖对腹腔手术后胃肠功能无显著影响,临床意义有限。

咀嚼口香糖必须得到患者实际配合实施,实际咀嚼次数、咀嚼时间、间隔时间不同有可能造成研究结果不同,目前尚无关于患者实际依从性的研究,本研究对于妇科腹腔镜手术后咀嚼口香糖进行严格设计,调查了患者的实际依从情况,现报告如下。

## 1 资料与方法

### 1.1 临床资料

选择 2016 年 8 至 12 月在陕西省人民医院妇科住院行腹腔镜手术患者 106 例,按照手术方式分层随机抽样分为口香糖组和对照组,各 53 例。入组标准:妇科疾患、腹腔镜手术、全身麻醉、语言交流与理解力正常。排除标准:孕妇、恶性肿瘤、术后化疗者。所有患者均签知情同意书,研究方案经医院伦理委员会批准。2 组患者的年龄、手术持续时间、术中出血及手术情况等一般资料比较,差异无统计学意义($P > 0.05$),具有可比性。

**表 1 2 组患者一般资料比较($n = 53$)**

| 组别 | 年龄(岁) | 手术持续时间(min) | 术中出血(mL) | 卵巢肿瘤剥除术[例(%)] | 附件切除术[例(%)] | 子宫肌瘤剔除术[例(%)] | 全子宫 + 附件切除术[例(%)] | 全子宫切除术[例(%)] |
|---|---|---|---|---|---|---|---|---|
| 口香糖组 | 39.18 ± 10.93 | 72.92 ± 25.31 | 70.10 ± 50.52 | 17(32.08) | 8(15.09) | 8(15.09) | 11(20.75) | 4(7.55) |
| 对照组 | 38.71 ± 12.76 | 69.24 ± 23.87 | 73.29 ± 55.84 | 19(35.85) | 11(20.75) | 9(16.98) | 10(18.87) | 4(7.55) |

### 1.2 方法

口香糖组术前对患者及家属进行关于口香糖咀嚼的原理及要求讲解,选用木糖醇口香糖,术后 2 h 开始咀嚼,每次咀嚼 2 ~ 3 条,每分钟咀嚼 30 次左右,每次咀嚼 15 ~ 20 min,每天 7:00 至 22:00 间隔 2 h,其余时间间隔不得超过 3 h,直至排气,咀嚼期间严禁将口香糖咽下。对照组按常规护理,术后 6 h 开始饮水,逐渐进流食、肛门排气后进半流食,排便后进普通饮食。

### 1.3 观察指标

记录口香糖组每次咀嚼时间、间隔时间和总咀嚼次数,总咀嚼次数大于等于 2 次者为完成人员,不足者为丢失病例,不计入统计。比较口香糖组和对照组的患者肛门首次排气时间、排便时间、腹胀的发生率及术后住院时间,所有指标时间均从手术结束时计算。

1.4 统计分析

采用SPSS 21.0 进行数据统计学分析,时间等计量资料用均数±标准差($\bar{x} \pm s$)表示,采用 $t$ 检验,患者例数以率(%)的形式表示,采用 $\chi^2$ 检验,$P<0.05$ 为差异有统计学意义。

1.5 预实验计算样本量

选取本研究中最重要的指标——术后首次肛门排气时间。口香糖组与对照组各 10 例,采用公式:

$$n=\frac{(u_{\alpha}+u_{\beta})^2(1+1/k)\ \sigma^2}{\delta^2}$$

取 $\alpha=0.05$,$\beta=0.1$,$k=1$,查表得 $u0.05$(双侧)=1.96,$u0.1=1.281\ 6$,预实验中口香糖组首次排气时间为术后(22.10±12.72)h,对照组首次排气时间为术后(32.20±16.06)h,代入公式得 $n=44$,设最大丢失率20%,得最终 2 组人数为各 53 人。

## 2 结果

2.1 咀嚼口香糖的实际依从性调查

原定 53 例,3 例放弃咀嚼,2 例仅咀嚼 1 次,病例丢失 5 例,丢失率 9.4%,实际完成 48 例(90.6%),48 例中实际咀嚼 2~8 次,平均(4.39±1.35)次,实际咀嚼时间平均每次持续(16.16±2.05)min,实际咀嚼间隔时间平均(2.38±0.26)h;口香糖组实际咀嚼时间无 1 例在术后 2 h,均从术后 4~6 h 开始。

2.2 2 组患者术后观察指标比较

口香糖组首次排气时间、排便时间均短于对照组,差异有统计学意义($P<0.05$);2 组患者术后住院时间比较,差异无统计学意义($P>0.05$),见表 1。口香糖组最早排气时间为术后 7 h,最迟术后 53 h,术后 24 h 内排气 39 例(81.3%);最早排便时间为术后12 h,最迟排便为术后 84 h,48 h 内排便 36 例(75.0%);对照组最早排气时间为术后 17 h,最迟术后 68 h,术后 24 h 内排气 6 例(13.2%);最早排便时间为术后 28 h,最迟排便为术后 95 h,48 h 内排便 21 例(39.6%);2 组患者术后腹胀发生率比较,口香糖组无腹胀发生,对照组有 8 例发生腹胀(15.1%),差异有统计学意义($P<0.05$),见表 2。

**表 2 2 组患者术后排气、排便时间比较($\bar{x} \pm s$)**

| 组别 | $n$ | 排气时间(h) | 排便时间(h) | 术后住院时间(d) |
|---|---|---|---|---|
| 口香糖组 | 48 | 19.60±7.59 | 36.77±17.16 | 3.94±1.87 |
| 对照组 | 53 | 33.79±10.54 | 53.25±16.92 | 4.42±1.26 |
| $P$ | | 0.000 | 0.000 | 0.133 |

## 3 讨论

妇科手术后 10%~15% 的患者发生肠道梗阻[9],胃肠道功能的延迟恢复会影响整个机体的功能,延长住院时间,增加患者治疗的总体费用[10]。腹腔镜微创手术肠梗阻的发生率约为 1%[1],胃肠功能恢复正常是预防肠梗阻的最重要指标。咀嚼口香糖是利用假饲的原理,非条件反射刺激口、咽、喉等处的感受器,经脑神经传入反射中枢,通过迷走神经传出而反射性地引起胃液分泌[11];胃泌素、胰多肽、胆囊收缩素的释放,从而增加胃动力[3];随着血中儿茶酚胺水平的下降,抑制交感神经兴奋,激活副交感神经活动[12];胃动素呈周期性释放,能直接作用于消化道平滑肌上的受体引起平滑肌细胞内环一磷鸟苷浓度增加,引起胃和小肠近端产生消化间期综合肌电Ⅲ相并诱发胃强烈收缩和小肠明显的分节运动,同时增强结肠运动和胆囊运动[13],从而促进胃肠功能的逐渐恢复。但有些研究认为即使胃动素分泌增加,也不一定对术后的排气和排便有帮助[8,14]。在以往的研究中,咀嚼口香糖的具体持续时间、间隔时间和术后开始时间并无统一标准,咀嚼持续时间 5~30 min,间隔 2~6 h 到 1 d 3 次,咀嚼开始时间为术后 2~12 h 都有研究[2,8,14-19],所有这些研究并未规定每分钟咀嚼的具体次数,也均未作患者的实际依从性调查,患者在实施贯彻中具体怎样执行?有无严格按照标准去做?这些因素有可能导致研究结果的差异性较大。

腹腔镜微创手术后咀嚼口香糖促进胃肠功能恢复的研究分 2 种,有些研究认为可以缩短术后首次排气、排便时间,减少术后肠梗阻的发生[3-4,20-21];Forrester 等[6]、Su'a 等[7]、任彦等[8]研究认为对咀嚼口香糖会增加胃动素的分泌,但对于术后胃肠功能无显著影响[6-8];Tazegül 等[22]则研究认为咀嚼口香糖对于促进术后排气时间方面不明显,但可以明显缩短术后首次排便时间。本研究专门针对妇科良性疾患实施腹腔镜手术后咀嚼口香糖的患者做了严格设计,结果表明,咀嚼口香糖组 24 h 以内排气占 81.3%,48 h 内排便占 75.0%,远高于对照组(13.2%,39.6%),无腹胀发生,属于有效。分析原因如下:①术前的护理宣教中对于口香糖咀嚼原理讲解详细,咀嚼次数、间隔,包括每分钟咀嚼次数等各个方面要求明确、告知充分,晚上咀嚼间隔 3 h,患者可以保证足够的睡眠,得到患者及家属理解,执行力较好。②尽早排气后可以更好进食,因此排便也较早。③每次咀嚼时间 15~20 min,间隔 2~3 h,设计较为合理。假饲的原理清楚,如果咀嚼时间

过短,间隔过长,对于胃肠道的刺激可能不足,效果不太明显;如果咀嚼时间过长,间隔时间过短则会对患者构成干扰,影响其休息或者进食。谢敏仪等[2]认为术后2 h咀嚼口香糖,患者术后肠鸣音恢复时间、肛门排气时间及排便时间、腹胀减轻均早于术后6 h,因此,咀嚼时间越早效果越好。本研究咀嚼口香糖组在术前宣教的时候要求从术后2 h开始,实际结果为患者均从术后4~6 h开始咀嚼,说明患者在术后2 h咀嚼还是存在一定困难。本研究中2组患者住院时间差别不明显,与Wronski[23]的研究不符,因为胃肠功能恢复不是出院的唯一指标,还有伤口愈合、体温等其他综合检查。咀嚼口香糖只是咀嚼及吞咽唾液的口腔运动,不摄入任何食物,只要患者清醒,能够配合即可[1];口香糖来源容易,且价格低廉,咀嚼无痛苦,可减轻口干及口臭,同时也可降低疼痛敏感性,减轻患者术后的焦虑紧张情绪,加速术后恢复[19]。

本研究结果说明利用假饲现象,科学规划咀嚼口香糖的时间,能有效促进腹腔镜术后尽早排气、排便,本研究未做多组时间对照研究,尚需通过多项指标来验证。

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