

# 口服磷酸钠盐用于结肠癌术后老年患者结肠镜检查前肠道准备的效果观察

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**摘要** 目的:评价口服磷酸钠盐用于结肠癌术后老年患者结肠镜检查前肠道准备的有效性、安全性及耐受性。方法:选取2011年9月1日至2011年12月31日间共116例行结肠镜检查的结肠癌术后老年患者,随机分组纳入试验组和对照组,试验组口服磷酸钠盐进行肠道准备,对照组口服硫酸镁制剂。结肠镜检查术者单盲评价肠道准备的清洁度,患者在肠镜检查当日及检查结束1周后评价肠道准备的耐受度。并记录不良反应(安全性)。结果:试验组肠道准备的总满意率为82.1%(46/56),对照组为90.0%(54/60),两组之间无明显差异( $P>0.05$ )。检查当10.7%的试验组患者和38.3%的对照组患者认为肠道准备过程难以耐受( $P=0.001$ )。检查结束1周后7.1%的试验组患者和23.3%的对照组患者认为肠道准备过程难以耐受( $P=0.003$ )。两组之间不良反应无显著性差异。结论:磷酸钠盐用于结肠癌术后老年患者的肠道准备,清洁效果和和不良反应情况与硫酸镁制剂相似,但患者的耐受性却显著提高。

**关键词** 结肠癌术后 结肠镜 磷酸钠盐

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## A Prospective Study of bowel Preparation for Colonoscopy with Sodium Phosphate Versus Adlerika in Elderly Patients with Colon Cancer Postoperation

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**ABSTRACT Objective:** To evaluate the efficacy, safety and tolerability of sodium phosphate used for colon cleaning in elderly patients with colon cancer postoperation. **Methods:** From September 1, 2011 to December 31, 2011, 116 elderly patients who previously underwent colon cancer surgery were invited to participate and randomly assigned to either NaP or Adlerika. They were asked to fill in a questionnaire about preparation tolerability and future preferences. The endoscopist filled out a report about the quality of colon cleansing. And the adverse reactions were recorded (security). **Results:** The total bowel preparation satisfaction rate of NaP-group was 82.1% (46/56), the Adlerika-group was 90.0% (54/60), and there was no obvious difference between the two groups ( $P>0.05$ ). Before colonoscopy 23 (38.3%) patients using Adlerika experienced the preparation almost intolerable, in contrast to 6 (10.7%) of those using NaP ( $P=0.001$ ). One week after the colonoscopy 14 (23.3 %) patients using Adlerika experienced the preparation almost intolerable, in contrast to 4(7.1 %) of those using NaP ( $P=0.003$ ). The adverse reactions were not significantly different between two groups. **Conclusion:** The efficacy and safety of Sodium phosphate used for colon cleaning in elderly patients with colon cancer postoperation was similar to Adlerika, but the patients' tolerability was significantly enhanced.

**Key words:** Colon cancer postoperation; Colonoscopy; Sodium phosphate

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### 前言

结肠癌术后的老年患者需要进行定期的结肠镜随访观察,以便发现新发的腺瘤或肿瘤复发<sup>[1,2]</sup>。老年患者肠道动力相对较弱,加之手术本身对肠管运动功能的影响,所以,良好的肠道准

备尤其重要。目前,结肠镜检查前肠道准备的药物较多,理想的肠道准备药物除具有较高的安全性和清洁效果外,还应具有良好的耐受性。过去,我们通常使用硫酸镁溶液,然而其耐受性较差,患者常常出现恶心、呕吐、腹痛等表现,严重时甚至出现过敏性休克<sup>[3-5]</sup>。磷酸钠盐是一种耐受性较好的肠道准备药物,已有的研究证实其具有良好的清洁作用,但它有导致急性磷酸盐性肾病的风险,且不宜用于心衰或肾衰的患者<sup>[6-12]</sup>。本研究旨在探讨磷酸钠盐用于结肠癌术后随访的老年患者中的有效性、安全性及患者耐受性。

### 1 材料与方法

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1.1 观察对象

选择 2011 年 9~12 月在解放军总医院南楼消化内镜诊疗科拟进行结肠镜随访的结肠癌术后老年患者 116 例(心、肾功能异常者不纳入此研究),随机纳入试验组和对照组。试验组 56 例,采用口服磷酸钠盐肠道准备法,其中,男性 54 例,女性 2 例,平均年龄 75.3 岁;对照组 60 例,采用口服硫酸镁溶液肠道准备法,其中,男性 56 例,女性 4 例,平均年龄 77.6 岁。两组年龄、性别、一般状况方面无显著性差异( $P>0.05$ ),具有可比性。

1.2 方法

所有患者于检查前 2 天进食少渣半流,试验组前一天晚 8

时口服磷酸钠盐 45mL,以 750mL 温水稀释口在半个小时内服完,检查当日上午 8 时再同样服用一次,对照组于检查前一天晚 8 时口服果导片 10mg,检查当日 8 时口服 50%硫酸镁溶液 70mL,随后在 1 个小时内口服 1.5L 温水。

1.3 观察指标

1.3.1 肠道清洁水平 评价标准:很好:无粪渣,视野清晰;好:有少量粪渣或粪液,经冲洗或吸引后易清除;一般:有较多粪渣或粪液,不易清除,稍影响观察;差:大量粪渣或粪液,无法清除,影响观察。(见表 1)评价为很好和好的视为肠道准备满意。

表 1 肠道清洁效果的评价标准

Table 1 Cleaning grading score by the endoscopist

Excellent	No fecal matter in the colon
Good	Small amounts of thin, liquid fecal matter in the colon; easy to remove
Fair	Moderate amounts of thick liquid fecal matter in the colon; difficult to remove
Poor	Large amounts of thick liquid or solid fecal matter in the colon; unable to remove

1.3.2 耐受情况 检查当日和检查 1 周后患者填写调查问卷,问卷内容包括:口感、耐受性、不良反应,并询问其在下一次结肠镜检查时希望应用何种清洁剂。

1.4 统计学方法

应用 SPSS16.0 统计学软件,组间比较采用卡方检验  $P<0.05$  具有统计学意义。

2 结果

所有患者均曾接受过 1-5 次结肠镜检查,既往均应用硫酸

镁进行肠道准备。此次研究中,检查当日,10.7%的试验组患者和 38.3%的对照组患者任认为肠道准备过程难以耐受( $P=0.001$ )。结肠镜检查结束 1 周后 75.0%的试验组患者和 45.0%的对照组患者认为肠道准备过程可以耐受( $P=0.001$ )。17.9%的试验组患者和 31.7%的对照组患者认为肠道准备过程勉强耐受( $P=0.004$ );7.1%的试验组患者和 23.3%的对照组患者认为肠道准备过程难以耐受( $P=0.003$ )。常见的不良反应有恶心、腹痛、发冷等(见表 2)。

表 2 肠道准备时的不良反应

Table 2 Side effects of bowel preparation (measured before colonoscopy)

	Adlerika-group (n, %)	NaP-group (n, %)	P value
Nausea	18 (30)	17 (30)	0.267
Vomiting	4 (7)	3 (5)	0.706
Abdominal cramps	13 (22)	12 (21)	0.953
Flatulence	8 (13)	6 (11)	0.336
Physical cooling	12 (20)	10 (18)	0.134

试验组中,64%的患者愿意下次继续使用磷酸盐,而对照组中只有 17%愿意继续使用硫酸镁制剂。肠道清洁水平见表 3。

表 3 肠道清洁水平

Table 3 Quality of bowel Cleaning for the colon (n, %)

	Excellent	Good	Fair	Poor	Total satisfaction rate
Adlerika-group (n, %)	48	6	3	3	90.0*
NaP-group (n, %)	40	6	4	6	82.1

Note: \* $P<0.05$ .

3 讨论

结肠癌术后患者需要进行定期的结肠镜检查随访。良好的肠道准备有助于检查者顺利完成检查,尽可能地发现并切除新生腺瘤,特别是对于结肠吻合口的观察,肿瘤复发的检出至关重要<sup>[13]</sup>。由于此类患者需多次行结肠镜复查,这就要求我们使用一种安全、耐受性好的肠道清洁剂<sup>[11]</sup>。

老年结肠癌术后患者虽然肠道变短,但因其术后常有肠粘连,加之老年人生理功能减退,肠蠕动减弱、肛肌张力减退、腹肌无力等因素,致使此类患者肠道准备常常较为困难。另外,老年人耐受性差,肠道准备时需要短时间内一次性大量饮水,常常导致患者恶心、呕吐,甚至诱发心力衰竭等严重不良反应。目前,国内外文献中尚无针对于此类患者的研究。

我科作为老年保健科室,针对此类患者以往通常采用硫酸

镁溶液作为肠道清洁剂,许多患者反映此药口感差、不良反应较多,耐受性较差。已有国内外研究资料显示,磷酸钠盐作为一种渗透性清肠药物,能够较为清洁地进行肠道准备,并能获得较为满意的安全性和耐受性<sup>[6-12]</sup>。

本研究选取结肠癌术后复查的老年患者,通过对比观察,我们发现口服磷酸钠盐组的清洁满意率为82.1%,而硫酸镁组为90%,两者比较无显著性差异( $P>0.05$ )。两组的清洁效果均低于既往文献中报道<sup>[11,12,14-19]</sup>,可能与老年患者生理功能减退,肠蠕动减弱、腹肌无力、手术后肠粘连等因素有关。磷酸钠盐组与硫酸镁组在清洁效果上基本相当,但略低于硫酸镁组。导致磷酸钠盐组清洁效果差的主要原因是,口服磷酸盐后肠粘膜渗透性增加,肠道粘性分泌物较多,其中混有大量气泡,而且气泡不容易被液体稀释,影响视野。因此我们设想,如果在口服磷酸钠盐进行肠道准备时,在口服最后一口水中加入祛泡剂(比如二甲硅油溶液),可能会提高磷酸钠盐的清洁效果,这有待于进一步研究证实。

在患者的耐受性评价中,无论是检查当日还是1周后,两组之间对于肠道清洁剂的耐受性评价存在显著差异,更多的磷酸钠盐组患者觉得耐受性好,而且希望在今后的检查中继续应用磷酸钠盐作为清洁剂(64%/17%)。检查当日10.7%的磷酸钠盐组和38.3%的硫酸镁组认为难以耐受,而在1周后的调查中,这组数字分别降至7.1%和23.3%,这可能与检查当日患者对于即将接受的结肠镜检的心理作用有关。

在耐受性调查问卷中,大多数硫酸镁组患者提到了大量饮水的问题,他们认为不良反应的产生是由于短时间大量饮水造成的,最常见的不良反应是恶心和呕吐,这与过去的一些调查结果相同<sup>[11,15,20]</sup>。另外,两组患者中均有为数不少的人提到了发冷这一现象,这在过去的文献中罕有见到。我们认为这与老年患者在接受结肠镜检查前长时间空腹有关,也可能与胃内压力急剧变化有关。

总之,磷酸钠盐是一种有效、安全、耐受性好的肠道清洁剂,在结肠癌术后老年患者的肠道准备中值得推荐。

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