



ROLE OF GUM CHEWING ON THE DURATION OF POSTOPERATIVE ILEUS FOLLOWING ABDOMINAL SURGERIES

Dr. M. Sri Sailaja Rani

M.S, Professor of General Surgery.

Dr.Pasula Anurag*

Post graduate. *Corresponding Author

Dr. K. Swapnika Lahari

MBBS.

ABSTRACT

AIMS & OBJECTIVES:1) To evaluate the effect of gum chewing on the duration of postoperative ileus following abdominal surgeries. **METHODS:** Patients in study group (n=25) were asked to chew one stick of chewing gum for 30 min four times a day until passing flatus while the control group (n=25) patients were kept nil per orally until the passage of flatus. **RESULTS:** Based on the results it can be concluded that on chewing gum it was seen that the duration of overall recovery of bowel movements in form of appearance of bowel sound, passing flatus and motion and feeling of hunger, occurred early in patients chewing gum **CONCLUSION:**Gum chewing after abdominal surgeries has shown to significantly reduced postoperative ileus as judged by the appearance of bowel sounds and passage of flatus as well as stools.

KEYWORDS :

Introduction :

Postoperative ileus (POI) is defined as the transient inhibition of normal gastrointestinal motility following abdominal surgery, typically lasting for 3-5 days.[1]

It is an inevitable response to surgical trauma leading to uncomplicated ileus where the areas of gastrointestinal tract resume function at different times. The small intestine recovers the normal function first, usually within the first 24 h, followed by the stomach about 12-24 h later; and recovery of the normal large intestine function usually takes between 48 and 72 h.[2]

Thus, in uncomplicated ileus, gastrointestinal motility is reestablished within 3 days. Conventionally, POI has been managed by gastric decompression by Ryle's tube, keeping the patient nil per orally, intravenous fluid supplementation till ileus resolves, and patient passes flatus.[2]

In recent years, the use of gum chewing has emerged as a new and simple modality for decreasing POI. It acts by stimulating intestinal motility through cephalic vagal reflex and by increasing the production of gastrointestinal hormones associated with bowel motility. Recently, it has been proposed that hexitols present in sugarless chewing gums might also be playing a role in the amelioration of poi because these are known to cause gastrointestinal symptoms such as gas, bloating, and abdominal cramps in a dose-dependent manner. The published literature reveals that gum chewing in the postoperative period is a safe method to stimulate bowel motility and it has been shown to reduce ileus after elective colonic anastomosis. Cases undergoing relaparotomy are also likely to have prolonged POI due to additional gut handling as a result of adhesiolysis

Aim:

This study is aimed to evaluate the effect of gum chewing on the duration of Post operative ileus.

Materials and methods:

Type of study : prospective clinical study

Sample size : 50

Institution: Rangaraya medical College

Time of study : May 2022 to July 2022

Inclusion and exclusion criteria:

Inclusion criteria: All patients >18 years who underwent elective abdominal surgeries

Exclusion criteria:

1. Patients who are below 18 years
2. Patients who did not give consent

3. Patients who underwent emergency surgeries

Patients and methods:

The patients were divided into 2 groups each of 25 by drawing strips. In the study group, 25 patients were asked to chew gum four times a day for 30 mins each time starting from 6 h after the surgery until the passage of first flatus. Commercially available gum (centrefresh) was used for this study. The nasogastric tube was removed after the passage of first flatus and oral intake was allowed thereafter.

In the control group, 25 patients were kept nil orally in the postoperative period until the passage of first flatus. The nasogastric tube was removed after the passage of first flatus and oral intake was allowed thereafter.

All the cases were built up preoperatively with enteral nutrition and hematinics wherever indicated. Electrolyte imbalance, if any, was corrected, and any comorbid illness was optimised before surgery.

Patients in study group (n=25) were asked to chew one stick of chewing gum for 30 min four times a day until passing flatus while the control group (n=25) patients were kept nil per orally until the passage of flatus. A probability value of less than 5% ($P < 0.05$) was considered significant. The Chi-square test was used to check for differences between proportions.

DISCUSSION:

POI occurs commonly after abdominal operations and is one of the limiting factors preventing early hospital discharge. Apart from spinal and local sympathetic neural reflexes, the pathophysiology of POI includes local as well as systemic inflammatory mediators released during surgery as part of the stress response.

The other exacerbating factors include

1. type of anesthetic drugs (atropine, enflurane, halothane)
2. Use of opioid analgesics, intraperitoneal surgery, degree of bowel manipulation, open vs laparoscopic surgery, and postoperative hypokalemia.
3. Ileus is also related to the anatomic location of gut resection. The time for restoration of motility is the longest after colorectal surgery. The potential complications of prolonged POI include increased postoperative pain, increased nausea and vomiting, pulmonary complications, poor wound healing, delay in resuming oral intake, delay in postoperative mobilization, prolonged hospitalization, and increased health-care costs.

In view of the potential complications and high economic impact, a number of pharmacological as well as nonpharmacological approaches have been used to decrease the burden of POI. These programs involve transverse or curved surgical incisions, removal of nasogastric tubes at the end of anesthesia, intraoperative

and postoperative analgesia, use of peripherally active mu-opioid receptor antagonist (alvimopan), early postoperative feeding, mobilization, and gum chewing/sham feeding. Multimodality therapy including a combination of various approaches may reduce POI by acting through multiple mechanisms. A recently conducted review evaluating pharmacological options to prevent POI concluded that gum chewing and alvimopan are effective in preventing POI, but given safety concerns (risk of myocardial infarction) and higher cost with alvimopan, gum chewing may be preferred.

	Control group	Study group
Appearance of bowel sounds	48 +/- 19 hrs	38 +/- 19 hrs
Passage of flatus	72 +/- 24 hrs	58 +/- 24 hrs
Passage of stools	92 +/- 24 hrs	65 +/- 24 hrs

RESULTS:

The 25 Patients in study group have decreased postoperative ileus than patients of control group , which indicates that chewing gum reduces postoperative ileus

CONCLUSION:

Based on the results it can be concluded that on chewing gum it was seen that the duration of overall recovery of bowel movements in form of appearance of bowel sound, passing flatus and motion and feeling of hunger, occurred early in patients chewing gum

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