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SIMETHICONE(ORALLY DISINTEGRATING STRIPS) FOR THE PREPARATION BEFORE ESOPHAGOGASTRODUODENOSCOPY

Gastroenterology

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ABSTRACT

Upper gastrointestinal endoscopy (esophago-gastro-duodenoscopy or EGD) is one of the most common diagnostic and therapeutic methods of upper gastrointestinal diseases .One limitation of the method is, however, the presence of air bubbles and foam in stomach and duodenum, which leads to decreased diagnostic accuracy, prolonged endoscopy time, and decreased patient's tolerance. Therefore, gastric and intestinal preparation prior to endoscopy is necessary for the removal of the bubbles. Currently, except fasting prior to endoscopy, no standard method has been recommended for prior EGD preparation.Simethicone is a detergent, which is a chemical mixture of dimethyl polysiloxane and silica gel and it helps in reduction of foam and air bubbles.

KEYWORDS

Simethicone ; Endoscopy

AIM – To study the effectiveness of simethicone (orally disintegrating strips- Gasofilm) in the preparation prior to EGD.

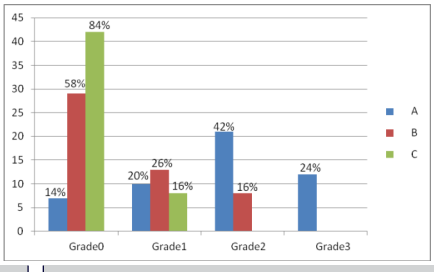
METHODS – Candidates (age > 18 years) of elective EGD received orally disintegrating strip of simethicone 15–30 min before the EGD. Patients with upper gastrointestinal bleed,gastric outlet obstruction, sedation, caustic ingestion,pregnancy,asthma were excluded. Patients were divided into 3 groups - Group A (only 6 hrs fasting prior to EGD-controls); Group B (6 hrs fasting plus 62.5mg gasofilm); Group C (6hrs fasting plus 125 mg gasofilm). Foam/air bubbles during endoscopy were assessed and graded on a 3-point scale - (0) no air bubbles, (1) small amount of bubbles, without interfering in the evaluation, (2) considerable amount of air bubbles and foam, such that it was somehow difficult to evaluate (3) mucosal evaluation hardly possible owing to the presence of foam and air bubbles. The amount of foam and air bubbles was recorded immediately at the end of endoscopy procedure by the gastroenterologist. The duration of the endoscopy procedure was also measured and recorded.

RESULTS –

Total of 150 patients (Males:82; Females:68 , Median age:45 yrs) were included in the study. Of the study population; 50 patients were selected each for Group A; Group B; Group C. The amount of foam/air bubbles was significantly lower in the simethicone group compared to control group ($p<0.002$). Group C(125 mg) had a higher percentage of patients in Grade 0 when compared to Group B(62.5 mg) (84% vs 58%).Duration of endoscopy was on average one minute shorter in the simethicone group compared to control group ($p<0.001$).

Group	Preparation
A	Only 6 hrs fasting prior to EGD
B	6 hrs fasting plus 62.5mg gasofilm
C	6hrs fasting plus 125 mg gasofilm

Grade 0	no air bubbles.
Grade 1	small amount of bubbles without interfering in the evaluation.
Grade 2	considerable amount of air bubbles and foam such that it was somehow difficult to evaluate.
Grade 3	mucosal evaluation hardly possible owing to the presence of foam and air bubbles.




ESOPHAGUS


ANTRUM


FUNDUS


FIRST PART OF DUODENUM


SECOND PART OF DUODENUM

DISCUSSIONS –

Simethicone is a detergent, which is a chemical mixture of dimethyl polysiloxane and silica gel. It is physiologically inactive and nontoxic [1]. It can be taken orally and cannot be absorbed through gastrointestinal system [2]. By reducing the adhesion force of air bubbles, simethicone removes the bubbles. Thus, it is expected that the drug can be used for removing gastric and duodenal foams and bubbles [3]. Simethicone does not have any known drug interaction, and no significant complication has been reported for it. Therefore, the drug has been used for treatment of patients with vague abdominal complaints (because of large amount of gases), and positive effects have been observed [4]. Moreover, the drug (in solution formulation) has been used in some studies for intestinal preparation prior to colonoscopy and capsule endoscopy [5].

CONCLUSIONS –

This is the first study evaluating efficacy of orally disintegrating strip of simethicone and comparing two different doses of simethicone. Our study shows that administration of simethicone(gasofilm) prior to EGD reduces the amount of gastric foam and bubbles and provides better visibility for evaluating the mucosa.It also decreases the duration of endoscopy.

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