Use of N-acetylcysteine plus simethicone to improve mucosal visibility during upper GI endoscopy: a double-blind, randomized controlled trial

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Abstract

BACKGROUND AND AIM:

Upper GI endoscopy (UGE) is essential for the diagnosis of gastrointestinal diseases. Mucus and bubbles may decrease mucosal visibility. The use of mucolytics could improve visualization. Our aim was to determine whether premedication with simethicone or simethicone plus N-acetylcysteine is effective in improving visibility during UGE.

METHODS:

This was a randomized, double-blinded, placebo-controlled trial with 2 control groups: no intervention and water 100 mL (W); and 3 intervention groups: simethicone 200 mg (S); S + N-acetylcysteine (NAC) 500 mg (S+NAC500); and S + NAC 1000 mg (S+NAC1000). The solution was ingested 20 minutes before UGE. Gastric visibility was evaluated in 4 segments with a previously described scale. A score of less than 7 points was defined as adequate visibility (AV). Water volume was used to improve visibility, and adverse reactions were evaluated as a secondary outcome. Multiple group comparison was performed using non-parametric one-way analysis of variance (ANOVA).

RESULTS:

Two hundred thirty patients were included in the study, 68% female, mean age 49 years. The most common indication for UGE was epigastric pain/dyspepsia (33%). AV was more frequent in the S+NAC500 and S+NAC1000 groups (65% and 67%) compared with no intervention (44%, P = .044) and water (41%, P = .022). The gastric total visibility scale (TVS) was significantly better in the S+NAC500 and S+NAC1000 groups compared with water (P = .03 and P = .008). Simethicone was not different from no intervention and water. S+NAC1000 required less water volume to improve visibility. No adverse reactions from the study drugs were observed.
CONCLUSIONS:

Premedication with S+NAC500 and S+NAC1000 improves visibility during UGE. The use of simethicone did not show improvements in gastric visibility. TVS was worse in patients using water alone. (Clinical trial registration number: NCT 01653171.).