Reviewer's report

Title: Early effects of oral administration of lafutidine with mosapride compared with lafutidine alone on intragastric pH values

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Reviewer: Carmelo Scarpignato

Reviewer's report:

This is a straightforward paper dealing with a pharmacodynamic interaction between a prokinetic compound (mosapride) and a novel H2-receptor antagonist (H2RA), namely lafutidine.

Despite all the intrinsic limitations, there is still a place for H2RAs in the era of PPIs. Besides controlling NAB (i.e. Nocturnal Acid Breakthrough), often observed even with twice daily PPIs, H2RAs (especially soluble or OTC formulations) will become the “antacids of the third millennium” and will be particularly useful for on-demand symptom relief. The onset of the antisecretory will then be particularly important. In this connection, this work is a welcome one since it does give an additional rationale for adding a prokinetic agent to an antisecretory compound. Indeed, in GERD this combination (usually with a PPI) has been adopted to increase gastric emptying rate (often delayed in a significant proportion of patients), thus reducing in that way the amount of gastric contenta available for reflux. Yet, another good reason could be to speed up the intestinal absorption of the antisecretory compound (be it a PPI or an H2RA) and achieve a quicker increase of intragastric pH, with consequent quicker symptom control.

This pharmacodynamic study clearly shows that this is the case. The paper is well written, the methodology is simple and correct, data are presented and discussed clearly.

It is not stated whether the subjects under investigation were fed or (as I guess) fasted. A similar experiment in fed subjects, measuring also post-prandial intra-esophageal pH, could be particularly useful to evaluate the effect of this drug combination on esophageal exposure to acid.

In addition, I am sure blood samples have been collected during the study. If this is the case, the investigators should measure lafutidine pharmacokinetics and quantitate the relevant PK parameters (Cmax, Tmax, AUC, etc) to give the readers a better insight into the clinical relevance of this drug combination.

The authors should also discuss the potential clinical utility of a fixed mosapride-lafutidine combination, where a specifically developed formulation could assure a sequential release of the different compounds.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests