

## Risk of upper gastrointestinal bleeding and perforation associated with low-dose aspirin as plain and enteric-coated formulations

### ABSTRACT

Low-dose aspirin increases by twofold the risk of UGIC in the general population and its coating does not modify the effect. Concomitant use of low-dose aspirin and NSAIDs at high doses put patients at a specially high risk of UGIC.

### INTRODUCTION

Background Upper gastrointestinal complications (UGIC) are the major risk associated with aspirin use. As with non-aspirin non-steroidal antiinflammatory drugs (NSAIDs), dose appears to be a major determinant, but even with low (300/325 mg) or very low doses (75 mg) a residual amount of risk seems to persist. It has been postulated that enteric-coated formulations of aspirin, designed to resist the disintegration in acid environment and pass by the stomach without dissolution, may have an impact in reducing the risk. The idea behind this strategy is grounded on the belief that gastric damage caused by aspirin is mainly due to a local effect. Results from several endoscopic studies carried out in healthy volunteers supported this hypothesis showing that enteric-coated aspirin caused less gastric erosion and microbleeding than regular formulations. However, it is known that these lesions are not good predictors of major upper gastrointestinal complications. From an epidemiological point of view the question is a matter of controversy as well. Two case-control studies have reported data on the effect of enteric-coated preparations on upper gastrointestinal bleeding, yielding to apparently opposite results. Weil et al concluded that "enteric-coated aspirin ... may be free of risk" after estimating an odds ratio of 1.6 but with a wide 95% confidence interval (0.5-4.9). On the other hand, Kelly et al found a risk of 2.6 (95% confidence interval, 1.4-5.3) which was essentially similar to the one estimated for plain aspirin when the effect of dose was taken into account. In order to shed some light onto this issue and to estimate the specific aspirin-related risk of upper gastrointestinal bleeding and perforation, its relation with dose and duration of treatment, as well as the potential interaction between aspirin and other drugs (particularly NSAIDs), we used data from a case-control study designed to estimate risks of UGIC associated with drugs and other factors.

### CONCLUSION

Conclusions Aspirin used at doses as low as 75 mg is still associated with a moderate risk of developing serious upper gastrointestinal complications. The coating of the active principle in order to spare the stomach does not reduce the risk of upper gastrointestinal complications, neither for the stomach nor for the duodenum. The first two months of treatment seem to be the period of greater risk, regardless the patient is first-ever user or not. Patients using concomitantly low-dose aspirin and high-dose nonaspirin NSAIDs are a subgroup of patients with a major increased risk of upper gastrointestinal complications.