Reviewer's report

Title: Annual pattern of peptic ulcer hospitalizations: a retrospective analysis of hospital discharge data of the Emilia-Romagna region of Italy.

Version: 2 Date: 7 November 2009

Reviewer: Jin-Yong Kang

Reviewer's report:

Seasonal variation in peptic ulcer disease has interested many investigators for many years and these studies are listed by the authors in Table 1. There is no clear-cut consensus, although the majority of studies point to a trough in the summer. It is therefore unsurprising that the present study again produced equivocal findings, the two analytical methods applied by the authors on the same dataset giving rise to somewhat different results.

As peptic ulcer disease and Helicobacter infection are chronic conditions, with their natural history going over years rather than months, it would seem intuitively likely that any seasonality which can be demonstrated would relate to factors which affect the severity of symptoms or presentation to medical attention, rather than to the pathogenesis of the ulcer diathesis. It is also possible the two causes of ulcer disease i.e. H pylori and NSAIDs, may have different seasonal patterns. These points should be mentioned in the discussion.

With the lack of consensus despite numerous previous studies, and the lack of clear-cut results despite the large patient numbers used in the present study, any seasonal difference in the presentation of peptic ulcer disease is unlikely to be of major clinical significance.

Specific comments:

Discussion

'Anecdotal evidence reports a classical biphasic pattern (Spring-Autumn) for acute PUD, and clinical evidence supports the hypothesis of a relationship between severe PUD, defined here in terms of the requirement for acute management by hospitalization, and season.'

Presumably by 'anecdotal evidence' the authors mean the various studies quoted- I think these constitute 'previous studies' rather than 'anecdotal evidence. There is no 'clinical evidence' on this point at all as what evidence there is come from analyses of databases.

'The demonstration of seasonal variation in PUD hospital admissions seems to be of practical interest.' II do not agree. Any interest would relate more to provision of insight into patho-genetic factors, rather than beint 'practical'

I am not a statistician and suggest an expert opinion be obtained regarding the
statistical methods used in this study. However, it seems to me that with the large number of comparisons made, the p value used to indicate statistical significance should not be the standard p<0.05. My recommendation of acceptance is provisional upon a satisfactory statistical opinion, but there is no suitable option in the list given below for this.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'