Reviewer’s report

Title: Alcoholic cirrhosis in Denmark - population-based incidence, prevalence, and hospitalization rates between 1988 and 2005: a descriptive cohort study

Version: 1 Date: 17 November 2007

Reviewer: Geoffrey Nguyen

Reviewer’s report:

Jepsen and colleagues have analyzed a Danish nationwide hospital registry to determine trends in incidence, prevalence, and hospitalization rates for alcoholic cirrhosis between 1988 and 2005. Among their important findings are age-specific trends in incidence, more specifically, a declining rate among those younger than 50 and a rise in the number of hospitalizations per patient. The validation of cirrhosis diagnosis was a particular strength of the study. The manuscript, particularly the Discussion, was quite well written.

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Major Compulsory Revisions:

1) It appears that their definition of alcoholic cirrhosis requires at least an initial admission to a hospital with a diagnosis of alcoholic cirrhosis. However, there are certainly cirrhotics with well compensated liver disease without portal hypertension that do not require hospitalization. Cirrhosis is a histological diagnosis, and many patients do not develop symptoms of clinical portal hypertension for years. So, based on their ascertainment algorithm for identifying Danish citizens with alcoholic cirrhosis, they are likely not capturing all cases of alcoholic cirrhosis who are only being cared for as outpatients and have not been hospitalized. At the very least, their incidence rates reflect a lag time between onset of histological cirrhosis and appearance of clinical manifestations that require HOSPITALIZATION. Thus, either the definition of cirrhosis (i.e. decompensated cirrhosis requiring hospitalization) needs to be modified or the authors need to clearly clarify their assumptions that all alcoholic cirrhosis cases will be eventually hospitalized (which is not necessarily true). It would be preferable to combine hospital discharge data with the outpatient registry data which would include cirrhotics who were never hospitalized. It appears that data from outpatient and emergency room visits may have been included in the analysis but it is unclear how. Or if it is standard practice in Denmark to admit to a hospital every new diagnosis of alcoholic cirrhosis for evaluation, then that needs to be stated.

2) The authors are correct in stating that a 32% increase in incidence in one year followed by stabilization of rates is implausible. This is very likely to be due to the change from ICD8 to ICD10 coding given that the rate increase occurred at the same time as the coding change. Though there may be only one unambiguous
diagnosis code for alcoholic cirrhosis, perhaps there were peripheral changes with other competing liver-related codes or coding processes that resulted in an increase of diagnoses for alcoholic cirrhosis. I think more emphasize needs to be placed on the shift of ICD coding because of the striking temporal association with the rise in incidence.

3) It is difficult for the reader to assess what impact the increase in average number of 1.3 to 1.5 hospitalizations per patient for men and 1.1 to 1.2 hospitalizations per patient for women has on the Danish healthcare system. The authors’ point could be more clearly conveyed if they also presented data on trends in the total number of hospitalizations throughout the country, which truly reflects the economic burden on the health system.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

If available, it would be helpful to include time trends in in-hospital mortality data for patients admitted with the primary diagnosis of alcoholic cirrhosis. This would allow an assessment of whether the severity of disease has increased or decreased over time, since a rise in hospitalizations may reflect a shift in practice patterns to admit less ill patients.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.