Reviewer's report

Title: Association between shift work and the risk of death from biliary tract cancer in Japanese men

Version: 2 Date: 25 August 2014

Reviewer: Mario Schootman

Reviewer's report:

Major Compulsory Revisions

The purpose of this study was to examine the association between shift work and risk of death from biliary tract cancer in Japanese men using a large cohort study of self-reported baseline data linked with death certificate data. This is an interesting study in part because of the focus on relatively rare types of cancers. Additional strengths include the cohort approach and a seemingly well characterized population. However, there are some weaknesses to the study that may affect its validity.

First, at baseline 46,395 men participated in the study but only 22,224 men were included because of missing data on occupation or history of cancer at baseline. The authors should examine if the smaller group of men was similar to the 46,395 men at baseline.

Second, it is not clear in many instances which instruments were used to obtain the data, including their validity and reliability. For example, stress was assessed but no instrument was described. More importantly, the validity of the exposure question that assesses shift work was not included (line 75).

Third, the sentences on lines 54-55 are unclear. Were all participants followed up through Dec 2009 or only in 10 areas was this the case?

Fourth, those who moved away from the study area were considered lost to follow up after their moved? Line 88.

Fifth, many men likely died from other causes than biliary tract cancer. Should a competing risk model have been used? If not, how could this have affected the findings?

Sixth, no additional data were collected after baseline. It could be that men who were on shift work saw declines in their health and were therefore taken off of shift work after baseline data collection. How could this have affected the findings?

Minor Essential Revisions

Line 87 includes pancreatic cancer death. What is the reason for this?
Was length of occupation as part of shift work collected?

Line 174 includes the statement that stress levels could have been an unknown confounder, but line 94 states that perceived stress was collected.

**Level of interest:** An article of importance in its field

**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