Reviewer's report

**Title:** Smoking increases rectal cancer risk to the same extent in women as in men: Results from a Norwegian cohort study

**Version:** 1  **Date:** 19 December 2013

**Reviewer:** Eva Negri

**Reviewer's report:**

This is a well written paper exploring the relation between cigarette smoking and rectal cancer by gender on a large dataset.

Minor essential revision

The authors state in the abstract and introduction that they examined "...if the described differences in the cigarette epidemic by gender could partly explain why men have a higher incidence of rectal cancer than do women".

While they compare the strengths of the association between smoking and rectal cancer in the two sexes, I didn't find any clear link to incidence rates. At the beginning of the Results section they briefly report the different prevalence of smokers in men and women in different periods, but again, whether the estimated HRs combined with the different smoking prevalences explain, at least in part, differences in incidence is never examined. They should either change the background/introduction or provide some estimate on how their data relate to incidence rates.

This is a kind of twin paper to that on colon cancer. They authors should discuss more in depths the differences and similarities between these two closely related sites (particularly rectum and distal colon).

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

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