Reviewer’s report

Title: Disease burden of herpes zoster in Sweden - predominance in the elderly and in women- a register based study

Version: 2 Date: 12 September 2013

Reviewer: Maria A San-Martin

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MAJOR COMPULSORY REVISIONS

Introduction.
And the end of the third paragraph you mentioned the potential risk of herpes zoster among Swedish adults, especially late in life. Maybe a reference to immunosenescence should be added as a possible cause of the increase of HZ incidence with age.

Fifth paragraph: The period considered for hospitalization data was between 2006 and 2009, however it is from 2006 to 2010 for mortality and drug prescription data. However in Methods study periods described are 2006-2010 for drug prescription data, 2006-2010 for hospital data and 2006-2009 for death cause data. Please check.

Would it be possible to perform an approach to an analysis of disease costs to have a better understanding of the potential impact of vaccination?

Methods
The denominator data used for rate calculation and the source from which these data were obtained should be described.

Results
As you mention in the Methods section acyclovir, famciclovir and valacyclovir may be prescribed for other types of herpes infections such as genital or oral herpes, and therefore prescriptions with words related to these disease in the patient information text will be omitted. However, in Results it is not specified the proportion of prescription confirmed by the patient text information to be herpes zoster related, the proportion of prescriptions omitted because they were related to other diseases and the proportion of prescriptions with no text information. These data would be important to assess the predictive value of the antiviral drugs prescriptions to identify herpes zoster cases.

Discussion
Is it stated that the prescription data may be regarded as an indirect measurement of the herpes zoster incidence in primary care among patients over 50 years of age. Anyhow this will be the case if we assume that all herpes zoster
cases #50 years of age are prescribed with an antiviral. Do you have any reference of the actual percentage of patients with herpes zoster who are treated with these drugs in primary care?

Other studies (data not published) have a low predictive value of antiviral prescriptions (even at high dosage) for herpes zoster cases identification. It would be important, therefore, to mentioned and discuss the proportion of the prescriptions obtained in your study that were confirmed to be related to herpes zoster in order to have an idea of the magnitude of the potential overestimation of the prescription rates due to the inclusion of non-herpes zoster cases.

Line 17 of the discussion: it should be specified that the "primary and non primary diagnoses" are related to hospital cases.

There are other similar studies carried out in different European countries that could be cited and results could be compared with the ones described here taking into account the possible methodological differences.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I work for Sanofi Pasteur MSD, the company that will distributed the herpes zoster vaccine in Europe