Reviewer's report

Title: Prevalence of high-risk HPV types and associated genital diseases in women born in 1988/89 or 1983/84 - results of WOLVES, a population-based epidemiological study in Wolfsburg, Germany

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Reviewer: Christine Elisabeth CLAVEL

Reviewer's report:

The German WOLVES study presented here is a well-done first analysis of an observational study. It is designed to provide the first real-life data in Germany on the changing dynamics of HR-HPV infection and potential associated genital lesions, in a population-based cohort study. As in different international trials, women younger than 30 yrs old are frequently excluded, here only young women of 20-30 yrs were invited, mostly non-vaccinated. The compliance of women is good with about 44% of women recruited in one year from the registered cohorts. There are two predefined birth cohorts: women born in 1983-84 (one-time cross-sectional analysis of data) and women born in 1988-89 (baseline data and a follow-up in 5 yrs). Moreover, a third cohort (women born in 1993-94) will be invited for a one-time examination in 2014-15.

The prevalence of HR-HPV is classically high in both cohorts, globally around 23%, using the robust molecular Hybrid Capture 2 technology and SPF10-PCR and LiPA for genotyping of HC2 positive cases. HPV16 positive-women had significantly more abnormal Pap smears and biopsy proven CIN2+ than HPV 16-negative women. The number of sexual partners was the higher risk factor for HPV infection in multivariate analysis. All these main results confirm previous results in other trials. Vaccination was logically higher in the 1988-89 cohort (21% of women vaccinated with the full 3 courses) and vaccinated women presented less HPV 16 infections.

A first main point of this longitudinal study is to provide in Europe the measurement of the impact of HPV vaccination of young women, at high risk of HPV infection. Second, concerning HPV infection and pathological data, this would allow the improvement of the management of young women at risk and to avoid over-treatments. The third underlying point would be to organize HPV vaccination more seriously in Europe.

So in conclusion, I recommend this article and have just minor questions and revision:

- about cervical sampling (page 5, last line): as HPV DNA testing was performed on a second cervical sample, did the authors check HPV detection on a first cervical sample to compare? What about the use of liquid-based cytology to perform on the same sample cytology and HPV?

- Table 1: some totals of numbers in the different patient characteristics do not
correspond to the total of 659 or 599 ( ?)

-Figure 2 : how did you count HPV types in multiple HPV infections ? (not precised)

Typographical error :
-page 7 line 10-11 : « intraepithelial neoplasia 1 (CIN1)...»

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.