Reply to Offutt-Powell et al

To the Editor—We read with interest the letter by Offutt-Powell et al, in which a statistical method was introduced to assess the strength of the association between human papillomavirus (HPV) infection and bladder cancer. A more conservative result was shown (odds ratio, 1.4; 95% confidence interval, 1.1–1.8) by a semi-Bayesian approach.

We agree with Offutt-Powell et al that bias from sample sizes of original individual studies and some other unknown sources affected the interpretation for HPV infection and bladder cancer. In fact, in our analysis, we also noticed these confounding factors and stated that “considering the great variation in HPV prevalence in bladder tissues and risk estimations among case-control studies, multicenter large scale studies are needed” and that “more detailed information on HPV infection in bladder cancer, such as distribution by sex, clinical stage, and even association with survival, is also needed to find more authentic conclusions” [1].

A meta-analysis usually combines the results of several studies that address a set of related research questions and will, therefore, be less influenced than single studies by local findings. Traditional and routine meta-analyses usually choose a fixed-effects model or a random-effects model based on the Mantel-Haenszel method [2] or the DerSimonian and Laird method [3], respectively, according to whether between-study heterogeneity is absent or present. For example, 2 recently reported meta-analyses selected both of these traditional statistical methods [4, 5]. However, it is possible that the semi-Bayesian approach introduced by Offutt-Powell et al might be more appropriate for combining data with large between-study variances.
Furthermore, we call the reader’s attention to a recent publication about the changing patterns of bladder cancer in the United States [6]. SEER (Surveillance Epidemiology and Results) data collected during 1973–2007 from 9 population-based registries shows that though the age-adjusted incidence rates of non-papillary transitional cell carcinoma (NPTCC) decreased during the study period, the rate of papillary transitional cell carcinoma (PTCC) increased. The striking differences in the temporal trends between PTCC and NPTCC suggest that they might be 2 disease entities and might have different etiological profiles [6]. No epidemiological studies have yet investigated risk factors separately for PTCC and NPTCC. We agree that, because of limitations in the individual studies, the risk of bladder cancer by HPV might have been overestimated in our meta-analysis. But the heterogeneity of bladder cancer suggests that HPV might play potential role in certain types of bladder cancer. Investigation of etiological profiles, either in vivo or in vitro, by disease subtypes in future epidemiological studies is essential to reach a valid conclusion regarding the association of HPV infection and bladder cancer.

Notes

Financial support. This work was supported by the National Natural Science Fund 30901236 and 81172757 from the National Natural Science Foundation of China, Beijing Natural Science Foundation (grant 7123225) and by a Fogarty Training Grant from the National Institute of Health (grant ID43TW008323-01).

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

Ni Li,1 Lin Yang,1 Lanwei Guo,1 Yawei Zhang,2 Ping Zhao,1 Tongzhang Zheng,2 and Min Dai1

1National Office for Cancer Prevention and Control, Cancer Institute and Hospital, Chinese Academy of Medical Sciences, Beijing, People’s Republic of China; and 2School of Public Health, Yale University, New Haven, Connecticut

References


Received and accepted 21 March 2012; electronically published 21 May 2012.

Correspondence: Min Dai, PhD, National Office for Cancer Prevention and Control, Cancer Institute and Hospital, Chinese Academy of Medical Sciences, No. 17 Panjiayuan-nanli, Chaoyang District, Beijing, 100021 P.R. China (daiminlyon@gmail.com).

The Journal of Infectious Diseases 2012;206:454–5
© The Author 2012. Published by Oxford University Press on behalf of the Infectious Diseases Society of America. All rights reserved. For Permissions, please e-mail: journals.permissions@oup.com. DOI: 10.1093/infdis/jis365