Effect of Pregnancy on the Risk of Developing Active Tuberculosis

To the Editor — Espinal et al. [1] recently reported a case-control study of the effect of pregnancy on the risk of developing tuberculosis [1]. Reproductive history did not differ significantly between women with tuberculosis and controls, and the authors concluded that there was no evidence supporting an effect of pregnancy on the risk of developing tuberculosis.

The authors note the possibility of selection bias to explain demographic differences between controls and cases, but they also suggest that this would be unlikely to have affected the comparison of reproductive histories. However, without the availability of additional data to clarify an important potential selection bias, the lack of significant differences in reproductive histories could easily be explained by just such a bias.

Controls were selected from among women electing anonymous testing for human immunodeficiency virus (HIV) infection. It would be reasonable to assume that such women might have significantly more sexual activity than the general population, since women with sexually transmitted diseases, multiple sex partners, and substance abuse are likely to be overrepresented among women choosing HIV testing. The significantly increased prevalence of alcohol use among controls might be due to such a bias. Women with more sexual activity are likely to have more pregnancies. Therefore, an increased number of total or recent pregnancies associated with active tuberculosis might easily be obfuscated by the choice of a control group with an increased rate of pregnancy. Information about whether such controls have reproductive histories different from those of the general population of women with similar demographic backgrounds in Santo Domingo, Dominican Republic, would help the reader to assess the potential impact of such bias on the study results.

Robert S. Klein

Department of Medicine, Division of Infectious Diseases, and Department of Epidemiology and Social Medicine, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, New York

References


Reply

To the Editor — We appreciate Dr. Klein’s [1] careful reading of our paper [2] and his thoughtful question concerning possible selection bias in our choice of control subjects. As Dr. Klein points out, the fact that the control subjects were enrolled at a site for anonymous testing for human immunodeficiency virus (HIV) infection could have resulted in the enrollment of control women who had more prior pregnancies than women in the general population, leading us to underestimate (or, as is the case, fail to observe) an effect of number of pregnancies on the risk of developing active tuberculosis.

While we do not have data concerning the number of pregnancies among the general population of women with similar demographic backgrounds in Santo Domingo, Dominican Republic, we do have data concerning the birth rate among all women in Santo Domingo for the time period 1988–1991: The mean number of live births was 2.6. Given that the mean number of live births has been consistently declining in Santo Domingo (from 3.6 in 1980–1982 to 3.2 in 1983–1985), it is likely that it was somewhat lower than 2.6 at the time we collected our data. In our study, the controls without HIV or tuberculosis reported a mean of 2.1 previous pregnancies, a fraction of which did not result in a live birth. Thus, the limited data we have for women in Santo Domingo suggest that our control group did not have a disproportionately high number of prior pregnancies.

Arthur L. Reingold and Marcos E. Espinal

School of Public Health, University of California, Berkeley, California; National Research Center in Maternal and Child Health, Robert Reid Children’s Hospital, and Santo Socorro Pediatric Sanatorium, Santo Domingo, Dominican Republic

Parenteral and Sexual Transmission of GB Virus C and Hepatitis C Virus among Human Immunodeficiency Virus–Positive Patients

To the Editor — We reported [1] that a considerable percentage of Italian patients affected by hepatitis of unknown etiology (non-A–E hepatitis: 35% of patients with acute infection and 39% with chronic hepatitis) are infected with GB virus C (GBV-C) [2, 3]. Among the positive patients, 3 had histories of intravenous drug abuse, 1 had received a blood transfusion, and 14 had no known risks of parenterally transmitted infections.

GBV-C seems to be parenterally transmitted, as inferred by sequential serologic analysis of transfusion-associated non-A–E hepatitis cases [3, 4]. Because of this presumed transmission route, GBV-C infection is thought to occur in a large proportion of patients with other parenterally