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INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY

LETTER TO THE EDITOR

Letter to the Editor Regarding “Impact of Vaginal-Rectal Ultrasound Examinations with Covered and Low-Level Disinfected Transducers on Infectious Transmissions in France” by Leroy et al.

To the Editor—A simulation study on the impact of vaginal-rectal ultrasound examinations on infectious risks in France was published recently by Leroy and colleagues.¹ Although statistical methods with Monte Carlo simulations could be contributive, we would like to raise some points which might limit the interpretation of their results.

The uncertainty of several parameters was possibly very wide, and simulation did not take such variability into account. The probability that a pathogen lingered on the probe after cleaning and disinfection was derived from data on bacterial agents in 2 single-center studies,^{2,3} whereas most infections

analyzed, again with a dearth of details regarding the calculation of pooled prevalence.⁷ We agree with Leroy et al¹ that the issue of probe contamination is important and could be a public health concern, particularly with human papillomavirus infection related to endocavitary ultrasound exposure. Additional sensitivity analysis would have improved the accuracy of estimations in the present study.¹ Appropriate prospective investigations are needed with a view to proposing the best preventive measures for patient safety regarding these exposures.

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simulated by Leroy et al were viral. The probability of probe contamination from an infected patient was extracted from observational data on sexual intercourse. However, the probability of transmission differed according to type of sexual intercourse, inoculum or viral load.⁴ Sexual exposure was most probably very dissimilar from endocavitary ultrasound exposure. With hepatitis C virus, the rate of transmission differed strongly between infection observed among drug users⁵ and patients after nosocomial exposure, such as hemodialysis.⁶ Similarly, with human immunodeficiency virus, the probability of infection after accidental blood⁷ and male-to-female sexual exposures⁸ is distinct with 0.003 and 0.0019 probability densities, respectively. Sensitivity analyses should have been conducted to properly interpret the results.

In a hypothetical cohort of 4 million exposed patients in France,¹ the authors ascertained that a mean (SD) of 40 (20) would be infected by human immunodeficiency virus and 151 (63) by hepatitis C virus annually. Recently, our group studied a French prospective, observational, hospital-based cohort of 16,474 individuals⁹ and found that the incidence of human immunodeficiency virus seroconversion was 0 (n=0) per 10,000 patient-years in patients with endocavitary probe exposure within 12 months before testing and 6.7 (n=13) in nonexposed patients (log-rank test: $P=.64$). The incidence of hepatitis C virus seroconversion was 16.1 (n=1) per 10,000 patient-years in patients exposed to endocavitary probes and 23.4 in nonexposed patients (log-rank test: $P=.69$).

In a letter published elsewhere,⁹ our group underlined that statistical analysis of a previous meta-analysis by Leroy,¹⁰ based on 2 published studies, would be questionable owing to lack of weighting according to study size. However, similar data were

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