pected number from a general population of the same age and sex was not done. This might have affected the trend assessment, because age-related residual confounding might have partially determined the increase in non–AIDS-defining cancers (ie, the median age of HIV-infected people was 46 years in 2005 and 41 years in 2000) [1].

Taking advantage of population-based data used for assessing post-AIDS survival in Italy [2], we compared the number of observed deaths due to pancreatic cancer among persons given a diagnosis of AIDS with the expected number. Briefly, data on all Italian citizens receiving a diagnosis of AIDS from 1999 through 2005 were linked with the Italian Mortality Database (December 2006 version) to update their vital status and to identify conditions present at death (for details on the linkage procedure, see Dal Maso et al [3]). The number of person-years at risk of death was computed from the date of AIDS diagnosis to the date of death or to 31 December 2006. The number of observed deaths attributable to pancreatic cancer (C25 in International Classification of Diseases, Tenth Revision) was divided by the expected number, which was computed from age- and sex-specific mortality rates for the Italian general population during the years 2000–2003. Thus, the standardized mortality ratio and its 95% confidence interval for death from pancreatic cancer among people with AIDS versus the general population were computed.

Of the 8537 Italian patients, aged 25–54 years, given AIDS diagnoses from 1999 through 2005 (who accumulated 31,437 person-years at risk of death), 2634 died. Five patients had pancreatic cancer at death, versus an expected number of 0.92. The corresponding standardized mortality ratio was 5.42 (95% confidence interval, 1.71–12.74), suggesting that Italian patients with AIDS had a statistically significant higher risk of dying from pancreatic cancer than did the corresponding general population.

This finding from Italy seems to confirm the substantial burden of pancreatic cancer in the risk of death among people with HIV/AIDS noted during the HAART era in France. It is in accordance with a 2.5-fold higher incidence of pancreatic cancer among HIV-infected people reported in the United States during the HAART era [4], but it contrasts with incidence data from Italy, where no excess risk for pancreatic cancer was observed during the pre-HAART era compared with the HAART era [3].

Because HAART use has been associated with an elevated frequency of diabetes [5], which is a well-established risk factor for pancreatic cancer in the general population [6], one can speculate that HAART use may, in the long run, increase the risk of death from pancreatic cancer in HIV-infected people. On the other hand, the improved survival of HIV-infected people resulting from the use of HAART increases the probability of their developing several types of cancers. Assessing the cancer mortality burden is now a major concern for HIV-infected people, and we agree with Bonnet and colleagues that future studies should better address the issue of HAART use and causes of death, particularly cancer.

Acknowledgments

We thank Dr Ettore Bidoli, Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS) Centro di Riferimento Oncologico, Aviano, for the management of the Italian Mortality Database and Dr Jerry Polesel, IRCCS Centro di Riferimento Oncologico, Aviano, for helpful comments.


Potential conflicts of interest. All authors: no conflicts.

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Is Acquisition of Methicillin-Resistant Staphylococcus aureus an Occupational Hazard for Medical Students?

To the Editor—Exposure to microbes is an inherent risk of working in patient care settings. In view of its increasing incidence in the general population, acquisition of methicillin-resistant Staphylococcus aureus (MRSA) is a special concern for health care workers [1, 2]. Medical students comprise a unique population at risk for MRSA acquisition. During the first 2 years of medical school, most students have little patient contact. In contrast, the third and fourth years traditionally involve substantial patient contact in hospitals and clinics. No study has analyzed whether this patient exposure creates a risk of MRSA carriage for US medical students.

To address these issues, we evaluated MRSA carriage rates among medical students at a community-based medical

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school. Second-year students were entirely based at a single campus. Third-year students were distributed among hospitals in 5 communities throughout the state. Swabbing was done at the end of the academic year to ensure that third-year students had significant patient exposure. Results were analyzed using the $\chi^2$ test and the Fisher exact test, with 95% confidence intervals calculated using the modified Wald method.

Separate swab specimens (BactiSwab; Remel) were obtained from both the nares and the pharynx of students who provided verbal consent. Swabs were streaked onto mannitol salt agar plates (BD Diagnostic Systems) and incubated overnight at 37°C. Both the nasal and pharyngeal swabs were streaked on the same plate. Samples that screened positive for $S. aureus$ were then streaked on MRSA oxacillin screen agar plates (BD Diagnostic Systems) and incubated overnight at 37°C. Positive samples were streaked onto mannitol salt agar plates to ensure a pure culture and were then frozen in Mueller Hinton media plus 20% glycerol and stored at −70°C.

There were 182 students in the study, including 95 second-year students and 87 third-year students. This represented 90% and 82% of the second- and third-year classes, respectively. Of second-year students, 5% reported an inpatient rotation in the previous 3 months, compared with 98% of third-year students.

There were 62 cultures that were positive for $S. aureus$ (34% of the population), which is similar to the rate of 29% for the general US population [1]. Five participants (2.7%) had cultures positive for MRSA (95% confidence interval, 1%–6.5%); this is similar to the rate for the general US population, for which the reported carriage rate is 1.5% on the basis of nasal cultures alone [1]. Of the 5 persons with MRSA carriage, 2 were second-year students who had not had a clinical inpatient rotation. Three were third-year students with inpatient experience (each from a different community campus). Thus, the prevalence of MRSA carriage was 2.1% for second-year students and 3.4% for third-year students ($P = .67$).

This study provides the first estimate, to our knowledge, of MRSA carriage among US medical students in the era of community-associated MRSA infection. It is also the first to compare carriage rates in the preclinical and clinical years. The results showed that nasopharyngeal MRSA carriage was not an occupational hazard of patient care exposure in third-year medical students.

**Acknowledgments**

**Potential conflicts of interest.** All authors: no conflicts.

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**References**


Are Statins Applicable for the Prevention and Treatment of Zygomycosis?

TO THE EDITOR—A recent article by Sun and Singh [1] summarized the antimicrobial and immunomodulatory attributes of statins. Among other things, they detailed the antifungal effects of statins on Zygomycetes, suggesting their possible application for protection against zygomycosis. Here, we should like to point out some aspects pertaining to this application that have previously been only partially discussed: the minimum inhibitory concentration (MIC) values of statins, their attainable serum concentrations, and their possible combinations with other antifungal agents.

Published data on statins’ antifungal activities against Zygomycetes are available only for lovastatin, simvastatin, rosuvastatin, and atorvastatin [2–4]. These statins displayed significant in vitro effects, completely blocking the growth of Zygomycetes at concentrations of 8–64 μg/mL, depending on the test method applied, the organisms involved, and the drugs studied [2–4]. Our investigations on the antifungal action of fluvastatin recently furnished similar results: MICs were found in the range of 3.125–100 μg/mL, depending on the sensitivity of the species investigated [5]. Atorvastatin seems less effective against Zygomycetes; it blocks sporangiospore germination at concentrations of 50–100 μg/mL (L.G., T.P., and Cs.V., unpublished data).

The MICs of statins are much higher than the concentrations attainable in the human serum; the differences are about 1 order of magnitude (table 1) [6–11]. In consequence, the combined application of statins and antifungal agents may be of practical importance. In particular, drugs that can act synergistically with statins, allowing substantial decreases in their therapeutic concentration, should be investigated. Indeed, lovastatin and voriconazole have proved to be synergistically effective against Zygomycetes in a range of clinically achievable concentrations of both drugs [3]. Our in vitro studies have revealed that amphotericin B acts synergistically with atorvastatin and fluvastatin at concentrations that can be achieved in the plasma. Their MIC$_{50}$ values (with regard to the minimum statin concentration in the studied combinations) were 390 ng/mL amphotericin B with 6 ng/mL atorvastatin and 48 ng/mL amphotericin B with 6 ng/mL fluvastatin (L.G., I.Ny., T.P., Cs.V., unpublished data). Another study has revealed a synergistic interaction between fluvastatin and a non-antifungal agent, suramin, on the growth of different...