To the Editor—Both our influenza study group [1–5] and Sugaya et al. [6] have reported that oseltamivir is clinically less effective than zanamivir against influenza B in analyses of the duration of fever and viral shedding; our group and Sugaya and colleagues have also reported that zanamivir is almost equally effective for both influenza A and B. Recently, Sugaya et al. [7] compared the clinical effectiveness of oseltamivir with that of zanamivir against influenza A/H1N1, A/H3N2, and B, and they reported that both drugs were equally effective in children. However, no study of these viruses has been reported that compares the effectiveness of zanamivir with that of oseltamivir among large numbers of adult patients, including elderly adults. We analyzed the duration of fever after administration of the first dose of zanamivir or oseltamivir in 858 patients for whom influenza A/H1N1, A/H3N2, or B was diagnosed by virus isolation over the 5 consecutive influenza seasons from 2003–2004 through 2007–2008.

Zanamivir was administered to 411 patients (mean age ± SD, 22.1 ± 14.7 years; range, 5–68 years), of whom 70 had influenza A/H1N1, 193 had influenza A/H3N2, and 148 had influenza B. Oseltamivir was administered to 447 patients (mean age ± SD, 30.9 ± 22.1 years; range, 9–94 years), of whom 79 had influenza A/H1N1, 177 had influenza A/H3N2, and 191 had influenza B. The duration of fever after the first dose of zanamivir or oseltamivir was calculated according to the method reported in our previous studies [2, 5].

For patients with influenza A/H1N1, the mean duration (±SD) of fever was almost the same in patients who received zanamivir therapy (32.0 ± 20.6 hours) as it was in those who received oseltamivir therapy (32.8 ± 19.2 hours). For patients with influenza A/H3N2, the mean duration
Zanamivir (n=411) Oseletamivir (n=447)

Duration of fever, h

A/H1N1

32.0 (70)

35.2 (193)

28.5 (177)

36.2 (146)

*** P<.01

A/H3N2

B

*** P<.001

Figure 1. Duration of fever after the first dose of zanamivir or oseltamivir in patients with influenza A/H1N1, influenza A/H3N2, and influenza B virus infection. Numbers shown above the bars indicate percentage (number) of patients.

(± SD) of fever was significantly (P<.01) shorter in those who received oseltamivir therapy (29.0 ± 24.8 h) than it was in those who received zanamivir therapy (35.2 ± 19.7 h). For patients with influenza B, the mean duration (± SD) of fever was significantly (P<.001) longer in those who received oseltamivir therapy (46.8 ± 29.6 h) than it was in those who received zanamivir therapy (36.2 ± 19.7 h). Among the patients who received oseltamivir therapy, the duration of fever was significantly longer in those with influenza B than it was in those with influenza A/H1N1 or A/H3N2 (figure 1). However, there were no statistically significant differences in the effectiveness of zanamivir therapy among patients with influenza A/H1N1, A/H3N2, or B (figure 1).

The respective reported mean values of inhibitory concentrations of 50% of zanamivir and oseltamivir were 1.14 and 0.90 nmol/L for influenza A/H1N1, 2.09 and 0.73 nmol/L for influenza A/H3N2, and 4.15 and 11.53 nmol/L for influenza B [8]. These findings may explain our results from a clinical context, because they reveal that oseltamivir is slightly more effective against influenza A/H3N2 and less effective against influenza B, compared with zanamivir therapy; this would indicate zanamivir for the treatment of influenza B virus infection. Recently, the World Health Organization reported that 39% of influenza A/H1N1 virus isolates worldwide were resistant to oseltamivir [9]. Zanamivir is indicated for use against influenza A/H1N1 virus strains that are resistant to oseltamivir. In conclusion, compared with zanamivir, oseltamivir was shown to be less effective against influenza B but more effective against influenza A/H3N2.

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Paradoxical Relationship between the Clinical Outcome of Staphylococcus aureus Bacteremia and the Minimum Inhibitory Concentration of Vancomycin

To the Editor—We investigated the relationship between the MIC of vancomycin and clinical outcomes in patients with Staphylococcus aureus bacteremia who were treated with vancomycin. Overall, patients who were infected with strains for which the MIC of vancomycin was >1.5 μg/mL had a lower 3-month mortality rate than did patients who were infected with strains for which the MIC was <1 μg/mL. This is in contrast to findings from previously published work [1].

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