

# Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

## EFFICACY AND SAFETY OF OSELTAMIVIR IN TREATMENT OF ACUTE INFLUENZA

A double-blind, randomized, placebo-controlled trial evaluated the efficacy and safety of oseltamivir in the treatment of naturally acquired influenza in otherwise healthy adults. Non-immunized patients ( $n = 726$ ) age 18 to 65 years who presented within 36 hours of the onset of influenza-like illness with fever of at least 38°C and at least one respiratory symptom and at least one constitutional symptom were randomized to oseltamivir 75 mg, oseltamivir 150 mg, or placebo twice daily for 5 days. Patients recorded their oral temperature and rated the severity of their influenza symptoms twice daily for up to 21 days. Of the 719 evaluable patients, 475 (66%) had laboratory-confirmed influenza. In patients with laboratory-confirmed influenza, the median duration of illness was reduced by 29 hours in the 75-mg oseltamivir arm and by 35 hours in the 150-mg oseltamivir arm compared with the placebo arm; this effect was apparent as early as 24 hours after the start of treatment. In patients who received treatment within 24 hours of symptom onset ( $n = 226$ ), symptoms improved 43 hours and 47 hours earlier in the 75-mg and 150-mg arms, respectively, compared with the placebo arm. Oseltamivir was generally well tolerated compared with placebo; the most common adverse events were mild-to-moderate nausea and vomiting at the start of treatment. The study concluded that because oseltamivir is easy to administer and has demonstrated efficacy and tolerability in healthy adults with uncomplicated influenza, it should be further investigated for use in children, the elderly, and high-risk populations.

*Nicholson KG, Aoki FY, Osterhaus ADME, et al: Efficacy and safety of oseltamivir in treatment of acute influenza: a randomised controlled trial. Lancet 2000;355:1845-1850.*

## GENOTYPIC AND PHENOTYPIC RESISTANCE TO ANTIRETROVIRAL DRUGS IN THERAPY-NAIVE PATIENTS

A cross-sectional cohort study investigated the prevalence of genotypic mutations and phenotypic antiretroviral resistance in therapy-naive HIV-1-infected United States military personnel ( $n = 114$ ). Blood samples were analyzed for genotypic resistance using consensus sequencing, and phenotypic resistance was analyzed using a recombinant virus assay approach. Of the evaluable patients, resistance to nucleoside reverse transcriptase inhibitors (NRTIs) was found in four patients (4%) by genotype and in seven patients (8%) by phenotype. Resistance to non-NRTIs (NNRTIs) was found in 14 patients (15%) by genotype and 24 patients (26%) by phenotype. A variety of mutations accounted for NNRTI resistance and included

mutations at reverse transcriptase codons 98, 106, 108, 179, 181, and 189. Genotypic resistance to protease inhibitors was found in 10 patients (10%), whereas phenotypic resistance was found in 1 patient (1%). The study concluded that the optimization of HIV-1 treatment guidelines must be based on ongoing estimates of the prevalence of drug resistance in HIV-1 seroconverters and that the benefit of pretherapy resistance testing must be determined.

*Wegner SA, Brodine SK, Mascola JR, et al: Prevalence of genotypic and phenotypic resistance to anti-retroviral drugs in a cohort of therapy-naive HIV-1-infected US military personnel. AIDS 2000;14:1009-1015.*

## LONG-TERM USE OF ACYCLOVIR OR SIMILAR AGENTS IN PROTECTING AGAINST AIDS-RELATED LYMPHOMA

A case-control study and a historical cohort study evaluated the effect of long-term daily use of acyclovir (and ganciclovir or foscarnet) for protection against AIDS-related non-Hodgkin's lymphoma (NHL). In the case-control study, patients ( $n = 29$ ) with HIV infection and biopsy- or autopsy-confirmed NHL were each matched to two control subjects ( $n = 58$ ). Comparison demonstrated a significantly lower long-term usage of high-dose acyclovir ( $\geq 800$  mg/day) for 1 year or more in the NHL case patients (6.9%) than in control subjects (46.6%). Twenty-two case patients (75.9%) used no acyclovir compared with 19 (32.8%) control subjects. In the cohort study, patients ( $n = 304$ ) with AIDS of at least 2 years' duration were divided into three treatment groups. Group I received acyclovir ( $\geq 800$  mg/day) or intravenous ganciclovir or foscarnet for at least 1 year; group II received intermittent or lower-dose acyclovir or ganciclovir/foscarnet for less than 1 year; and group III received no acyclovir, ganciclovir, or foscarnet. The proportions of patients with NHL were 6.8% in treatment group I, 15.5% in group II, and 25.2% in group III. The study concluded that long-term use of high-dose acyclovir or similar antiviral agents may offer some protection against the development of NHL in patients with AIDS; however, additional studies are needed to confirm these findings.

*Fong IW, Ho J, Toy C, et al: Value of long-term administration of acyclovir and similar agents for protecting against AIDS-related lymphoma: case-control and historical cohort studies. Clin Infect Dis 2000;30:757-761.*

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