Widespread Use of Neuraminidase Inhibitors in Japan, and Several Issues to Be Resolved

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Diagnosis with rapid tests and treatment with neuraminidase inhibitors (NAIs) have become standard practice for influenza virus infection in Japan. However, even in Japan, there have been various criticisms regarding the routine use of NAIs for the treatment of seasonal influenza, based on doubts about its clinical effectiveness and side effects.

In order to address the doubts about the clinical effectiveness of NAIs, published data on the effectiveness of NAIs were reviewed and compared. To address criticisms about the neuropsychiatric disorders that were suspected of being adverse reactions to oseltamivir, the Vital Statistics data of Japan were analyzed.

NAIs are probably more effective in children than in adults, because it was difficult to detect any difference in the duration of influenza illness between an NAI-treated group and a placebo group of otherwise healthy adults who were not immunodeficient. NAIs may be more effective in high-risk adult patients than in previously healthy adults. The efficacy of oseltamivir in children has been underestimated because oseltamivir is less effective against influenza B, which is more common in children.

There were no increases in deaths in the 10- to 19-year-old population by accidents or by suicide after the introduction of oseltamivir in 2001. At present, it is generally thought that abnormal behavior is caused by influenza virus infection in Japan.

In addition to oseltamivir and zanamivir, the newly approved inhaled drug, laninamivir and the newly approved intravenous drug, peramivir are used since the 2010-2011 season, bringing to four, the total number of NAIs currently being used nationwide. Approval of T-705 has been postponed.