

ANTIBODY RESPONSES AGAINST INFLUENZA B LINEAGES AMONG COMMUNITY-DWELLING INDIVIDUALS 65 YEARS OF AGE OR OLDER HAVING RECEIVED TRIVALENT INACTIVATED INFLUENZA VACCINE DURING TWO CONSECUTIVE SEASONS IN THAILAND

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Abstract. Seasonal trivalent influenza vaccines (TIV) have been recommended since 2008 for people ≥ 65 years of age in Thailand. While two distinct antigenic lineages of influenza B virus, namely, B/Yamagata and B/Victoria, often co-circulate in Thailand, TIV contains only one influenza B lineage. Little is known regarding cross-protection among older Thai persons offered by current TIV against heterologous influenza B lineage. Kinetics, longevity and cross-antibody response to both influenza B lineages were measured in 85 healthy Thai persons ≥ 65 years of age vaccinated with TIV containing B/Phuket/3073/2013 (Yamagata lineage) in 2015-2016 season and then with TIV containing B/Brisbane/60/2008 (Victoria lineage) in 2016-2017 season. Hemagglutination-inhibition assays were performed on blood specimens collected at five time intervals during the study period. Seroconversion rate, seroprotection rate, geometric mean titer (GMT), and GMT ratio peaked at one month after the first vaccination and declined over time. At one-month post second vaccination, antibody response was shown not only for homologous B/Brisbane virus but also for heterologous B/Phuket virus. The study suggests the elderly could develop antibody response to both influenza B lineages when primed with TIV containing one B lineage and boosted with a TIV vaccination containing the other B lineage. Although more research is needed, in resource-limited countries where quadrivalent influenza vaccines are not available, repeated TIV vaccination may be beneficial in developing immunological protection against influenza B in people ≥ 65 years of age.

Keywords: elderly, immunogenicity, influenza B lineage, trivalent influenza vaccine, Thailand

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