

Korean Red Ginseng is an immuno-stimulant for protecting mice from infections of avian influenza virus

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Pandemics created by avian influenza viruses occurred 3 to 4 times in the interval of 30 to 40 years. The last pandemic occurred in Hong Kong by avian H3N2 influenza viruses. H5N1 avian influenza viruses are widespread in poultry over many countries including Indonesia, Vietnam, and China. Until now, 204 out of 332 infected humans died of H5N1 infections. Considering the lethality of H5N1 avian influenza viruses, the effective vaccine is urgently needed. In addition to the effective vaccine, an alternative measurement to stimulate the immune system of humans may help to reduce human mortalities.

Here we show that Korean red ginseng is very effective for reducing mortality of mice infected with reassorted H5N1 (PR8/H5N1) influenza viruses that are highly pathogenic to mice. Mice were fed with Korean red ginseng (water-extract) and Saponin for 30 days before mice were challenged with lethal doses of reassorted H5N1 (PR8/H5N1) influenza viruses. Six out of 10 mice fed with Korean red ginseng or five out of 10 mice fed with saponin extracted from Korean red ginseng survived, while all untreated and infected mice died until 8 days p.i. When we performed histopathological analysis, lung tissue from mice treated with Korean red ginseng showed milder infiltrations of inflammatory cells than lung tissue of control mice. Anti-viral cytokines such as IFN- γ or IFN- α were up-regulated in lungs of mice fed with Korean red ginseng than in those of control mice. Our results suggest that Korean red ginseng may help to protect humans from potential pandemic influenza viruses.