HEARING LOSS AMONG OH-58D CREWS

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Background and Aims: OH-58D Kiowa Warrior reconnaissance/attack helicopter contained 4-blade main rotor and 2-blade anti-torque rotor, which were one of the noise sources. Long-term exposure to the helicopter may result in pilots' hearing loss (HL). We report a 5-year study on the noise-induced hearing loss (NIHL) among the OH-58D helicopter pilots.

Methods: We conducted a retrospective longitudinal study (2005~2009) focus on the hearing loss among the AH-1H helicopter pilots. Data were collected from the pilots' annual physical examination records, including the hearing loss in left and right ears at frequency 500Hz, 1000Hz, 2000Hz, 4000Hz and 8000Hz. A generalized estimating equation (GEE) was used to assess the association of interests, as well with the adjustment with age.

Results: We found that during the pass 5 years: HL was significantly increased with age ($p=0.0255$). Left ear had 1.55 dB (A) higher HL than that of right ear ($p=0.0067$). Compared with the HL in 2005, the HL in 2006 and 2009 had 1.15 dB (A) and 5.21 dB (A) significant difference ($p<0.0001$), respectively. Regarding the HL at difference frequency, 4000 Hz and 8000 Hz had 5.29 dB (A) and 5.77 dB (A) significantly higher ($p<0.0001$ and $p<0.0001$) than the HL at 500 Hz, respectively.

Moreover, compare with the variation of frequency differences at baseline (2005), there were only one significant difference at 1000 Hz vs. 500 Hz in 2007 ($p=0.0100$).

Conclusions: Significant HL at 4000 Hz indicated an occupational hazard. We suggest (1) re-evaluating their hearing protective devices, such as era plug, noise muffs, and helmet, (2) establishing regulation for early warning shift and significant threshold shift, and (3) a longitudinal study for the HL among the crews.