



A65 Identification of Korean War Era United States Service Members From Highly Commingled Remains

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After attending this presentation, attendees will understand some strategies employed by AFDIL and JPAC-CIL in identifying individuals from highly commingled remains, specifically from the Namjong-gu region of the K208.

This presentation will impact the forensic community by demonstrating a use of established forensic methods for the identification of commingled remains. The poster will further impact humanity by highlighting the ongoing efforts of AFDIL and JPAC-CIL to bring missing United States service members home.

A key component of the mission of the Armed Forces DNA Identification Laboratory's (AFDIL) Mitochondrial DNA Section is to assist the Joint POW/MIA Accounting Command – Central Identification Laboratory (JPAC-CIL) in the identification of U.S. service members missing from past military conflicts. This includes individuals missing from World War II, the Korean War, the Cold War, and the Vietnam War. In order to accomplish this mission, a combination of methods including mitochondrial DNA (mtDNA) analysis (performed by AFDIL), anthropology, archeology, odontology, and circumstantial evidence are used. Although mtDNA analysis alone cannot positively identify an individual, it may be very useful in situations involving commingled remains lacking a firm archeological context.

Between 1990 and 1994, 208 sets of skeletal remains from the Korean War were repatriated to the United States from the Democratic People's Republic of Korea (DPRK). These samples are colloquially referred to as the K208. Using anthropology and mtDNA analysis, these putative 208 individuals were instead found to be a severely commingled set of remains and to contain more than the purported number of individuals. Currently AFDIL has identified 271 different mtDNA sequences from these samples.

The K208 remains were attributed by the North Koreans to 20 different proveniences, each designated by a village name. These villages correlate with locations in which U.S. servicemembers are known to have died. Some of these geographic series have turned out to be more commingled than others, due to different original burial circumstances and recovery practices. The region focused on in this presentation is Namjong-gu in which 42 sets of remains are present and 55 different mtDNA sequences have been obtained thus far. This village was the location of a prisoner-of-war camp used to hold U.S. personnel during the spring of 1950, where numerous prisoners died and were buried. Segregation of individuals is further complicated by numerous samples sharing common mtDNA haplotypes. In Namjong-gu, 14 samples belong to the most common Caucasian mtDNA haplotype with a minimum number of individuals (MNI) of three based solely on bone type. In the entire K208 population, 115 skeletal elements belong to this haplotype. Additionally, AFDIL does not have reference mtDNA sequences from maternal family members of all service members missing from this region. Despite these challenges, six individuals from Namjong-gu have been identified and returned to their families, as well as 33 individuals from this entire population of repatriated remains. So far, identifications have focused on the least commingled remains.

The views expressed herein are those of the authors and not The Armed Forces Institute of Pathology, the U.S. Army Surgeon General, nor the U.S. Department of Defense.

Commingled Skeletal Remains, Mitochondrial DNA, Korean War