



Physical Anthropology Section - 2013

H129 Dental Ornamentation Among Southwest Hispanic Border Crossers at the Pima County Office of the Medical Examiner

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After attending this presentation, attendees will have a better understanding of the phenomenon of dental ornamentation among some Southwest (SW) Hispanics, and a better ability to predict the geographic or national origin of decedents with varying styles of dental ornamentation.

This presentation will impact the forensic science community by increasing the understanding and identification potential of this rapidly growing demographic of American immigrants. With the recent rise in the number of SW Hispanics living in the United States, forensic anthropologists are increasingly faced with estimating ancestry in a more diverse community of Hispanic individuals. As such, an understanding of dental modification may assist in the process of predicting national, cultural, or socioeconomic affiliations of a particular unidentified decedent.

Over the past ten years, the Pima County Office of the Medical Examiner (PCOME) has examined the remains of over 2,000 individuals either confirmed to be or believed to be undocumented border crossers. A small but consistent portion of those examined have exhibited dental ornamentation to the anterior teeth in the form of metal "windows" (gold or silver lining around the tooth), gold or silver crowns, stars or letters inlaid onto incisors, and thin bars of gold or silver placed mesially between teeth. Because this is likely a cultural phenomenon, the prevailing hypothesis is that the prevalence and type of such cosmetic dentistry will vary by geographic region of origin.

To address this question, over 1,400 autopsy reports, photographs, and/or dental charts were reviewed from all cases of undocumented migrants examined at the PCOME between 2005 and 2012. Both identified and unidentified individuals were included. For the purposes of this study, "dental ornamentation" refers to individuals who have any gold or silver dental modifications present in the teeth between either the maxillary or mandibular canines. These cases were coded as "present," whereas those without ornamentation were coded as "absent." The individuals who were missing all or part of the dentition postmortem, or when dental ornamentation could not be determined, were coded as "unknown." In addition to the presence or absence of dental adornment, sex and age were noted for all cases, and for identified individuals, the country and state of origin within Mexico, Central America, or South America were collected. For those with dental ornamentation present, further details were recorded regarding the type and location of dental ornamentation. Simple percentages, Chi-Square Tests, and Phi Coefficients were calculated using SPSS 19.

Results demonstrate that out of the 991 SW Hispanic migrants included in this study, a total of 115 (11.6%) individuals had dental ornamentation of some kind. Although a small percentage, the relatively even distribution of those examined between 2005 and 2012 demonstrates that dental ornamentation continues to be a consistent phenomenon among undocumented border crossers. Most importantly for identification purposes, the presence of cosmetic dental restorations is significantly higher among Central Americans (21.1%) when compared to Mexicans (7.8%) ($\chi^2=.000$). Additionally, a larger proportion of Central American females had cosmetic restorations (28.5%) when compared to Mexican females (16.7%) ($\chi^2=.002$). Cosmetic dental restorations were also present at a higher rate among Central Americans under the age of 30 years than Mexicans of the same age group ($\chi^2=.027$). Most interesting, at least 50% of all individuals with dental ornamentation did not have any associated dental work and the ornamentation was purely cosmetic.

The large percentage of individuals with purely cosmetic dental ornamentation supports the argument that this is a cultural phenomenon, as opposed to being limited to therapeutic intervention. Individuals are making a choice to have a gold or silver adornment on their front teeth. Furthermore, the higher prevalence of dental ornamentation within the Central American sample demonstrates regional variation, which also supports the cultural argument. Although additional research is needed to further clarify regional patterns, these results indicate that dental ornamentation may be used to assist forensic anthropologists in predicting region of origin when comparing unidentified decedents to missing persons, especially when there are a great number of possible matches.

Forensic Anthropology, Southwest Hispanic, Dental Ornamentation