Dental wear and oral pathology: Possible evidence and consequences of habitual use of teeth in a Swedish Neolithic sample

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ABSTRACT

Atypical wear and oral lesions were studied in the dental remains from the Middle Neolithic Pitted Ware Culture site Äjvide on the island of Gotland in the Baltic Sea. Teeth (n = 764) from 17 males and 11 females were examined microscopically to document unusual wear, assess wear patterns and oral lesions as evidence of habitual behavior, and determine their effect on the oral health of this population. Five atypical wear types were observed: occlusal facets, occlusal excessive load, labial vertical striae, labial horizontal striae, and interproximal striae. Three oral lesions were recorded: chipping, periapical lesions, and dental tilting. Results indicate that teeth were used in a habitual manner at Äjvide, based on the morphology and regularity of the patterns of atypical wear. Differences were observed between the sexes, indicating gender-related differences in the habitual use of teeth. Some wear categories showed a significant correlation with age, signifying increased or accumulated wear with age. Statistically significant positive correlations were found in the molars between occlusal excessive load wear and periapical lesions as well as tilting. Other apparent links were also observed between chipping and vertical striae as well as excessive load, although these were not significant. This suggests a relationship between dental wear and dental pathologies at this site, suggesting that habitual use of teeth indirectly affected the general oral health at the site. Wear patterns, furthermore, seem to mirror both frequent activities as well as single events. Am J Phys Anthropol 136:423-431, 2008. © 2008 Wiley-Liss, Inc.

KEYWORDS
Pitted Ware Culture • Gotland • Äjvide • dental lesions • extramasticatory wear