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Tooth Loss Positively Predicts

Cardiovascular Disease Risk in Adult Filipino Women

Cardiovascular disease (CVD) is a growing global epidemic. Recent studies have shown that CVD is negatively associated with oral health, reflecting the propensity of oral fauna to cause systemic inflammation, which in turn thickens the arterial walls. Oral fauna corresponds closely to oral lesions resulting from tooth loss. This study's primary objective was to investigate the association between tooth loss and CVD controlling for relevant covariates related to lifestyle, and to evaluate the possible mediating role of C-reactive protein (CRP), an inflammatory marker. Measures of tooth loss, anthropometry, disease history, pathogen exposure, income, and urbanicity ranking were evaluated as predictors of CVD in 1619 women participating in the Cebu Longitudinal Health and Nutrition Survey in the Philippines. Maximum likelihood logistic regression models were used to predict CVD risk in women who developed CVD after age 20. Extreme tooth loss, defined as greater than 25 teeth missing, was the strongest predictor of elevated CVD risk [OR= 2.11; p< 0.018]. Two candidate pathways were considered, a) inflammation, which is caused by bacteria entering the bloodstream from oral lesions; b) obesity, which may occur due to edentulous individuals eating softer, higher caloric foods. First, waist circumference, a measure of obesity, was tested as a possible mediator but did not appear to be a significant predictor of CVD. Next, when CRP was taken into account, the association between tooth loss and CVD became stronger and more significant [OR= 2.17; p<0.015]. Nonetheless, tooth loss was not predictive of CRP, and CRP was positively, but not significantly, correlated with CVD risk. These results underscore the need for additional research on the potential mediating role of inflammatory markers to determine how tooth loss is associated with elevated CVD risk in the Philippines.