

Molar-Incisor hypomineralization in controls vs CLP with primary or prior to secondary alveolar grafts

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Molar incisor hypomineralization (MIH) is a congenital defect of unknown etiology that can affect both esthetics and cariogenic susceptibility. The objective of this study was to determine whether MIH is greater in patients with cleft lip and palate (CLP) who underwent primary alveolar grafting (PAG) as compared to CLP prior to secondary alveolar grafting (SAG) and to controls. A retrospective analysis of intraoral photographs of 13 (10M:3F; 8.9 ± 1.2 yrs) CLP patients who underwent a PAG, 27 (18M:9F; 10.0 ± 2.1 yrs) CLP prior to SAG, and 60 (30M:30F; 12.4 ± 1.8 yrs) controls without CLP was performed. Mantel-Haenszel chi-square tests were used to compare the three groups for differences in MIH scores and Wilcoxon Rank Sum tests were used to compare the groups for differences in average MIH scores. A 5% significance level was used for all tests. MIH scores were significantly higher for the PAG and SAG groups compared to the control group ($p < 0.001$). The PAG group had significantly higher incisor MIH ($p = 0.016$) than the SAG group. MIH average scores were significantly higher for the two graft groups compared to the controls ($p < 0.0001$). The PAG group had significantly higher average MIH score and average MIH score for incisors than the SAG group ($p = 0.03$). The results suggest that CLP patients, in general, have significantly greater MIH compared with controls and CLP with PAGs have significantly greater MIH in the incisor region than CLP waiting for SAGs. The increased severity of MIH could be related to the grafting during the time of incisor crown formation.