Title

First molar cross-bite is more closely associated with a reverse chewing cycle than anterior or pre-molar cross-bite during mastication.

Author(s)

池森 宇泰

Citation

Issue Date

2015-09-08

URL

http://hdl.handle.net/10232/25401
http://ir.kagoshima-u.ac.jp
First molar cross-bite is more closely associated with a reverse chewing cycle than anterior or pre-molar cross-bite during mastication

A posterior cross-bite is defined as an abnormal bucco-lingual relationship between opposing molars, pre-molars or both in centric occlusion. Although it has been reported that patients with unilateral posterior cross-bite often show unique chewing patterns, the relationship between the form of cross-bite and masticatory jaw movement remains unclear in adult patients. The objective of this study was to investigate masticatory jaw movement among different forms of cross-bite. One hundred and one adults were recruited in this study: 27 had unilateral first molar cross-bite (MC group); 28, unilateral pre-molar cross-bite (PC group); 23, anterior cross-bite (AC group); and 23, normal occlusion (control group). Masticatory jaw movement of the lower incisor point was recorded with six degrees of freedom jaw-tracking system during unilateral mastication. Our results showed that the reverse chewing ratio during deliberate unilateral mastication was significantly larger in the MC group than in the PA (P < 0.001), AC (P < 0.001) and control (P < 0.001) groups. These findings suggest that compared to the anterior or pre-molar cross-bite, the first molar cross-bite is more closely associated with a higher prevalence of a reverse chewing cycle.