

OP49 EFFECTIVENESS OF EXTRACTION OF THE PRIMARY CANINES FOR THE INTERCEPTIVE MANAGEMENT OF PALATALLY DISPLACED PERMANENT CANINES: A META-ANALYSIS

Ameirah Saeed Alyammahi, Eleftherios G. Kaklamanos, Athanasios E. Athanasiou, Hamdan Bin Mohammed College of Dental Medicine, Mohammed Bin Rashid University of Medicine & Health Sciences, Dubai, United Arab Emirates

AIMS: Although extraction of primary canines in the mixed dentition has been suggested as a measure to prevent impaction of palatally displaced permanent canines (PDC), the respective evidence has been inconclusive. The aim of this study was to investigate the effectiveness of this practice.

MATERIALS AND METHOD: A search without restrictions for published and unpublished literature and hand searching took place. The data on the prevalence of physiologic PDC eruption from randomized controlled trials (RCTs) that compared the extraction of primary canine to either no treatment or delayed treatment was reviewed. The random effects method was used to combine treatment effects. Individual study risk of bias was assessed using the Cochrane Risk of Bias Tool and the quality of evidence according to the Grades of Recommendation, Assessment, Development and Evaluation approach.

RESULTS: One thousand eight hundred and seventy eight references were initially identified and finally included data from five RCTs involving 329 patients with 479 PDC in total, following them for up to 48 months post-intervention. One study presented data also for the 12-month evaluation. Two studies were at low and the rest at high risk of bias. At the 12-month evaluation, extraction of the primary canine does not result in a statistically significant benefit compared to no treatment [risk ratio (RR): 1,537; 95% confidence interval (CI): 0.656 - 3,601; 1 study, n = 67 participants and 99 canines]. Beyond 12 months, overall, there was moderate quality evidence that extraction of the primary canine provides a statistically significant benefit compared to no treatment or delayed treatment [RR: 1,784; 95% CI: 1,376 - 2,314; 5 studies, n = 214 participants and 261 canines; I² = 0%]. Analysis of the studies at low risk of bias confirmed the abovementioned result [RR: 1,713; 95% CI: 1,226 - 2,394; 2 studies, n = 91 participants and 147 canines; I² = 0%].

CONCLUSION: Extraction of the primary canines in the mixed dentition may increase the chance of subsequent successful eruption of PDC in the long term. However, better study standardization and reporting in long follow-ups are necessary.