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ORIGINAL SCIENTIFIC ARTICLE

Potential for pulp revascularization in mature anterior teeth with lateral luxation in relation to the patient's age at the time of injury—a retrospective cohort study

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Abstract

Purpose The aim of this study was to investigate the potential for pulp revascularization in relation to patient age at the time of injury following luxation injury of mature anterior permanent teeth.

Materials and methods A total of 93 teeth from 70 patients were included. The patients were divided into subgroups based on their age at the time of the injury. Statistics: the Aalen–Johansen method was used to estimate the risks of pulp canal obliteration (PCO) and pulp necrosis (PN). The absolute 2 year risks of PCO and PN were obtained with cause-specific Cox regression and reported separately for each cohort, standardised to age at injury and degree of repositioning.

Results For the group younger than 15 years of age, the risk of PN after 12 months was 62.3% [95% CI 44.9; 79.7] in the cohort from 1972 to 1980 and 28.6% [95% CI 4.9; 52.2] in the cohort from 2012 to 2020. For the age group 16–20 years, the risk of PN after 12 months was 66.7 [95% CI 40.0;93.3] in the cohort from 1972 to 1980 and 25% [95% CI 0.0;55.0] in the cohort from 2012 to 2020. For the age group between 21 and 25, the risk of PN after 12 months was 66.7% [95% CI 40.0; 93.3] in the cohort from 1972 to 1980 and 55.6% [95% CI 23.1; 88.0] in the cohort from 2012 to 2020.

Conclusion There is potential for pulp revascularization in mature anterior teeth with lateral luxation in patients up to 25 years of age. The risk of PN appears to increase with age.

Keywords Pulp revascularization · Pulp necrosis · Lateral luxation · Dental traumatic injury

Introduction

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