

Supplemental Table S1. Excluded articles

| Authors | Reason for exclusion |
|--------------------------------|--|
| Bell & Epker 1976 | No periodontal outcomes were reported |
| Glassman et al. 1984 | No periodontal outcomes were reported |
| Kraut 1984 | No periodontal outcomes were reported |
| Bays & Greco 1992 | Unclear periodontal outcomes |
| Handelman 1997 | Same patient sample from Handelman 1994 |
| Berger et al. 1998 | No periodontal outcomes were reported |
| Matteini & Mommaerts 2001 | No periodontal outcomes were reported |
| Pinto et al. 2001 | No periodontal outcomes were reported |
| Bierenbroodspot et al. 2002 | Retrospective case series with <10 patients |
| Neyt et al. 2002 | No periodontal outcomes were reported |
| Garib et al. 2006 | Prospective case series with <10 patients |
| Harzer et al. 2006 | No periodontal outcomes were reported |
| Hansen et al. 2007 | No periodontal outcomes were reported |
| Aziz et al. 2008 | No periodontal outcomes were reported |
| Chamberland & Proffit 2008 | No periodontal outcomes were reported |
| De Freitas et al. 2008 | No periodontal outcomes were reported |
| Fernandez-Sanroman et al. 2009 | Unclear periodontal outcomes |
| Koudstaal et al. 2009 | No periodontal outcomes were reported |
| Landes et al. 2009b | Same patient sample from Landes et al. 2009a |
| Laudemann et al. 2009 | Same patient sample from Landes et al. 2009a |
| Angeletti et al. 2010 | No periodontal outcomes were evaluated |
| El-Sayed & Khalil 2010 | No periodontal outcomes were evaluated |
| Laudemann et al. 2010 | Same patient sample from Landes et al. 2009a |
| Laudemann et al. 2011 | Same patient sample from Landes et al. 2009a |
| Martorelli et al. 2011 | No periodontal outcomes were evaluated |
| Seeberger et al. 2011 | Unclear periodontal outcomes |
| Nada et al. 2012 | No periodontal outcomes were evaluated |
| Zambon et al. 2012 | No periodontal outcomes were evaluated |
| Sygouros et al. 2014b | Same patient sample from Sygouros et al. 2014a |
| Dergin et al. 2015 | No periodontal outcomes were evaluated |
| Jensen et al. 2015 | Unclear periodontal outcomes |
| Salguiero et al. 2015 | No periodontal outcomes were evaluated |
| Verquin et al. 2016 | Unclear periodontal outcomes |
| Jensen & Rodrigo-Domingo 2017 | No periodontal outcomes were evaluated |
| Pereira et al. 2018 | No periodontal outcomes were evaluated |
| Fonseca et al. 2019 | No periodontal outcomes were evaluated |
| Andreischev et al. 2020 | No periodontal outcomes were evaluated |

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|-----------------------|--|
| Li et al. 2020 | No periodontal outcomes were evaluated |
| Drobyshev et al. 2021 | Unclear periodontal outcomes |
| Gul et al. 2021 | No periodontal outcomes were evaluated |
| Kernitsky et al. 2021 | Retrospective case series with <10 patients |
| Landes et al. 2021 | Same patient sample from Landes et al. 2009a |
| Pereira et al. 2021 | Unclear periodontal outcomes |
| Noverraz et al. 2021 | Unclear periodontal outcomes |
| Turker et al. 2022 | No periodontal outcomes were evaluated |

Supplemental Table S2. Quality assessment of non-randomized studies based on the Newcastle-Ottawa Scale (NOS)

| Cohort studies | Selection | | | | Comparability | Outcomes | | | Total stars |
|-----------------------------|--|--------------------------------------|---------------------------|--|--|--------------------------|---|----------------------------------|-------------|
| | Representativeness of the exposed cohort | Selection of the non-exposed cohorts | Ascertainment of exposure | Demonstration that outcome of interest was not present at the start of the study | Comparability of cohort on the bases of the design or analysis | Ascertainment of outcome | Follow-up long enough for outcomes to occur | Adequacy of follow-up of cohorts | |
| Greenbaum & Zachrisson 1982 | * | * | * | / | ** | * | * | * | 8 |
| Handelman 1996 | * | * | * | * | * | * | * | * | 8 |
| Northway & Meade Jr. 1997 | * | * | * | * | * | * | * | * | 8 |
| Carmen et al. 2000 | / | * | * | * | * | / | * | * | 6 |
| Handelman et al. 2000 | * | * | * | * | ** | * | * | / | 8 |
| Ramieri et al. 2005 | * | / | * | * | * | * | * | / | 6 |
| Rungcharassaeng et al. 2007 | * | / | * | * | * | * | * | * | 7 |
| Landes et al. 2009 | * | / | * | * | * | * | * | * | 7 |
| Gauthier et al. 2011 | * | / | * | * | / | / | * | * | 5 |
| Verlinden et al. 2011 | * | / | * | / | / | * | * | * | 5 |
| Williams et al. 2012 | * | / | * | / | / | * | * | * | 5 |
| Kilic et al 2013 | * | / | * | * | / | * | * | * | 6 |
| Sygouros et al. 2014 | * | / | * | * | / | * | * | * | 6 |
| Lin et al. 2015 | / | / | * | * | * | * | * | * | 6 |
| Siqueira et al. 2015 | * | / | * | * | * | * | * | * | 7 |
| Kim et al. 2017 | * | / | * | * | * | * | * | * | 7 |
| Sendyk et al. 2018 | * | / | * | * | * | * | * | / | 6 |
| Moon et al. 2020 | * | / | * | * | / | * | * | * | 6 |
| Li and Guilleminault 2022 | / | / | * | / | / | * | * | * | 4 |
| Martin 2023 | * | / | * | * | / | * | * | / | 5 |

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability. /: Study did not meet criteria, *: Study met criteria.

Supplemental Table S3. Bias risk assessment for RCTs using Cochrane Risk of Bias Tool for Randomized Controlled Trials

| Author | Randomization process | Deviation from intended intervention | Missing outcome data | Measurement of the data | Selection of the reported result | Risk |
|---------------------|------------------------------|---|-----------------------------|--------------------------------|---|-------------|
| Kayalar et al. 2016 | Low | Low | Low | Low | Low | Low |