Bruxism and Prosthesis

Introduction

Strength in prosthesis implant support produces one overload in structure, screw implants and bone. The aim of the present review is to provide a bibliographic research about risk factor and complications of the prostho-dodontic rehabilitation with implants in bruxism patients.

Keywords: Prosthesis; Implants; Bruxism; Dental; Rehabilitation; Prosthodontic

Materials and Methods


Results

Table 1: Results.

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome (Bruxism Related)</th>
<th>Conclusions: Is Bruxism a Risk Factor?</th>
<th>Have Bruxism Relation with Failure of Implants</th>
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</thead>
<tbody>
<tr>
<td>Schneiker 2012</td>
<td>70 patients</td>
<td>100 implants with different crown-to-implant ratio Follow-up 6.2 years</td>
<td>Reported bruxism (17 patients, 24.3%) Mechanical complications (wear, fracture, and screws loosening) Biological complications</td>
<td>Bruxism did not predict mechanical or biological complications</td>
<td>No</td>
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<tr>
<td>Ji, 2012</td>
<td>45 patients</td>
<td>297 implants 50 full-arch rehabilitations with immediate loading Follow-up 1–125.5 months</td>
<td>Bruxism (unspecified criteria; 58 implants) Marginal bone loss – implant success (Spiekermann and Jansen’s criteria)</td>
<td>Higher failure rates in bruxers (29.3% implants [17/58] vs 4.6% [11/239])</td>
<td>Uncertain</td>
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<tr>
<td>Malò, 2011</td>
<td>21 patients</td>
<td>995 implants 4 groups of patients based on edentulous areas Follow-up 5 years</td>
<td>Bruxism (anamnesis plus tooth wear; unspecified number of bruxers) Mechanical complications (fracture abutment, or screw loosening)</td>
<td>Four implants lost in two patients were in two bruxers</td>
<td>Uncertain</td>
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<tr>
<td>Zupnik, 2011</td>
<td>No specify</td>
<td>341 implants No specify follow-up</td>
<td>Self-reported clenching history (121 in clencher vs 220 in nonclenchers) Implant failure</td>
<td>Clenching: 0.22 OR (95% CI: 0.04–1.41) for implant failure</td>
<td>No</td>
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</tbody>
</table>
Recommendations

Avoid cantilevers [1-3].

Increase number of implants placing [1-3] larger implants with large diameters [1-2].

Prosthetic design

Allow adequate freedom of movement at occlusal contact.

Areas in maximum intercuspidation [1-3].

Large implants [1,2]. Flat incline plans of the cusps [1-3].

Using resin acrylic teeth in prosthesis [1-3].

Discussion

The examined papers supported no provide clear conclusions between a relationship between bruxism - implant failures [4-6], bruxism- mechanical complications [5] while that one study establish positive relationship between bruxism and mechanical failures [7]. Although no convincing evidence that bruxism causes an overload of dental implants and their supra-structures, some practical guidelines are given as to reduce the risk of complications and, ultimately, implant failure that included: place more implants than would have been necessary, longer implants with a larger diameter help to keep the stresses in the bone as low as possible, flat incline planes of the cusps [8].

Conclusion

No evidence that bruxism produce overload in implants although need more recommendations about size of implants, design of occlusion scheme and using discharge plaque.

References