

## Oral Biofilm and Stomatitis Denture: Local Implications and Cardiovascular Risks

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**Abstract :** Denture-related stomatitis (DRS) has recently been associated with deleterious cardiovascular effects, including hypertension. This study evaluated salivary parameters, blood pressure (BP) and heart rate variability (HRV), before and after DRS treatment in edentulous patients (n=14). Collection of unstimulated and stimulated saliva, as well as blood pressure (BP) measurements and electrocardiogram recordings were performed before and after 10 days of DRS treatment. The salivary flow (mL/min) was found similar at both times while pH was smaller (more neutral) after treatment ( $7.3 \pm 2.2$  vs.  $7.1 \pm 0.24$ ). Systolic BP (mmHg) showed a trend, but not a significant reduction after DRS treatment ( $158 \pm 25.68$  vs.  $148 \pm 16.72$ ,  $p=0.062$ ) while diastolic BP was found similar in both times ( $86 \pm 13.93$  and  $84 \pm 9.38$ ). Overall HRV, measured by standard deviation of RR intervals was not affected by DRS treatment ( $24 \pm 4$  vs  $18 \pm 2$  ms), but differences of successive RR intervals (an index of parasympathetic cardiac modulation) increased after the treatment ( $26 \pm 4$  vs  $19 \pm 2$  ms). Moreover, another index of vagal modulation of the heart, the power of RR interval spectra at high-frequency, was also markedly higher after DRS treatment ( $236 \pm 63$  vs  $135 \pm 32$  ms<sup>2</sup>). Such findings strongly suggest that DRS is linked to an autonomic imbalance with sympathetic overactivity, which is markedly deleterious, increasing cardiovascular risk and the incidence of diseases such as hypertension. Acknowledgment: This study is supported by FAPESP, CNPq.

**Keywords :** biofilm, denture stomatitis, HRV, blood pressure

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