

**INTERNATIONAL PRADER-WILLI SYNDROME ORGANISATION
7TH SCIENTIFIC CONFERENCE
MAY 20-21, 2010, TAIPEI, TAIWAN**

**SALIVARY FLOW AND ORAL ABNORMALITIES IN
PRADER-WILLI SYNDROME**

Ronnaug Saeves¹, Hilde Nordgarden¹, Ivar Espelid², Kari Storhaug¹

¹ TAKO-centre, Lovisenberg Diakonale Hospital, Oslo, Norway; ² Department of Pediatric Dentistry, University of Oslo, Norway.

INTRODUCTION: Persons with Prader-Willi syndrome (PWS) have sparse, thick and sticky saliva. High caries activity, poor oral hygiene and extreme tooth wear have been described in case reports. Oral and dental problems have received little attention by researchers. The aims of the study were to examine salivary flow rate and describe oral and dental characteristics in Prader-Willi syndrome.

METHODS: Fifty-one individuals with PWS, aged 5-41 years and an age and sex-matched control group were examined with regard to salivary flow rates, dental caries experience, gingival inflammation, enamel defects and tooth wear. Both unstimulated and chewing stimulated whole saliva as well as taste-stimulated parotid salivary flow rates were measured. The presence or history of dental caries was evaluated both clinically and on radiographs. Tooth wear was evaluated according to a 4-point scale, the Jonkoping-index. An individual tooth wear index (I_A) was created on the bases of the scores of incisal or occlusal wear for each tooth.

RESULTS: The average flow rate for unstimulated saliva (UWS) was $0.12 \pm 0.10 \text{ ml min}^{-1}$ for individuals with PWS compared with $0.32 \pm 0.20 \text{ ml min}^{-1}$ for controls ($p < 0.0001$). Chewing stimulated flow rate (SWS) was $0.41 \pm 0.35 \text{ ml min}^{-1}$ for the PWS group compared with $1.06 \pm 0.65 \text{ ml min}^{-1}$ for the control group ($p < 0.0001$). Taste-stimulated parotid saliva was not found to differ significantly between the persons with PWS and healthy controls. There was no significant difference in caries experience in the primary dentition. Caries experience in permanent teeth (persons > 18 years) was higher in the control group ($p = 0.04$). The median GI-index (gingival inflammation) was significantly higher in the PWS group compared with the control group ($p = 0.04$). The number of surfaces affected with enamel defects was 3.5(1.0-8.8) in the study group and 4.0(0.5-7.0) in the control group ($p = 0.76$). The median tooth wear index I_A was 7.5 (0-100) in the PWS-group and 2.2 (0-10.7) in the control group ($p < 0.0001$)

CONCLUSIONS: Low whole salivary flow and tooth wear are very common in individuals with PWS. Taste-stimulation may increase salivary flow rates in this group. The oral hygiene in the studied population with PWS was generally poor but the dental caries experience was not increased. This may reflect a low sugar diet and tight follow-up regimes.