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One Year Clinical Monitoring of Patients With Adult Periodontitis Following Vector Treatment

Language: English, Abstract

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Introduction

VECTOR TREATMENT
The resonating ring of the Vector System converts the ultrasonic dynamics of 25kHz in a similar way to a hula-hoop. If it is pressed into the horizontal position it moves vertically with 90° deflection (Fig. 1). This allows a linear movement of the instruments parallel to the tooth surface and an adhering film of water or particle suspension. The ultrasound's energy is thereby indirectely coupled onto the tissues to be treated (Fig. 2, 3).

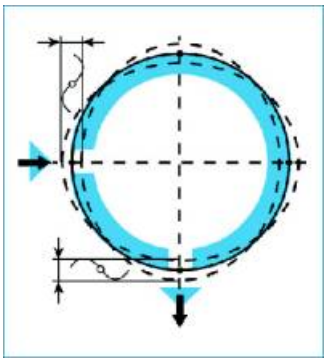

Fig. 1 Vector's ring resonator

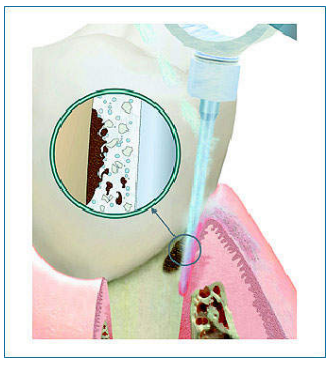

Fig. 2 Vector's principle of instrumentation

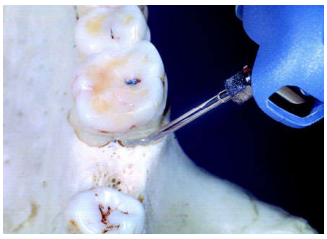

Fig. 3 Vector's curette in situ

Material and Methods

24 subjects (14 male, 10 female, age: 37 - 64 yrs.) were recruited for a clinical trial aimed at assessing the effect of the Vector initial and supportive periodontal therapy (SPT). The treated periodontal areas showed no endodontic disorder. The pockets were measured using a pressure calibrated probe and classified into 4 groups (group 1: sulcus probing depths (SPD)*4mm; group 2: 5mm*SPD*7mm; group 3: 8mm*SPD*10mm; group 4 SPD*11mm) for each subject. After a baseline examination including assessments of oral hygiene standards, attachmemt level (AT), bleeding on probing (BOP) and suppuration (Supp) the patients received oral hygiene instructions. For the initial periodontal treatment the metallic Vector-instruments and the Vector-hydroxylapatite (HA)-suspension was used according to the manufacturer's instructions. By using a split mouth design on the same patients, diluted HA-suspension with a pH of 7 (control) and diluted citrus acid solution with a pH of 5.5 modified analogous HA-suspension (test group) were assessed. All of the results were re-evaluated after 6 weeks, 3 months, 6 months and 12 months. The participants received a professional oral prophylaxis and a selective SPT (only locations with persistent BOP) by using the Vector fiber-reinforced resin-recall-instruments and analogous suspensions.

Results

Six weeks after the initial treatment a significant reduction of the sulcus probing depths (Fig. 6) and of the number of periodontal areas with positive BOP (Fig. 4) was attained (Pooled data; Tukey-Kramer, $p<0,05$). Suppurations had completely disappeared (Fig. 5). Twelve months after the initial treatment an attachment gain of more than 2 mm was recorded on 21 out of 24 patients on more than three periodontal areas (Fig. 7). No gender specific significant differences existed. Data of both the test and control group was derived from the same population.

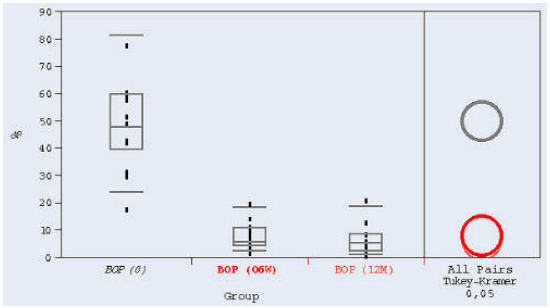

Fig. 4 Pooled data (test and control): Percentage of locations with positive bleeding on probing (BOP) at baseline (0), six weeks (06W) and 12 months (12M) following Vector treatment

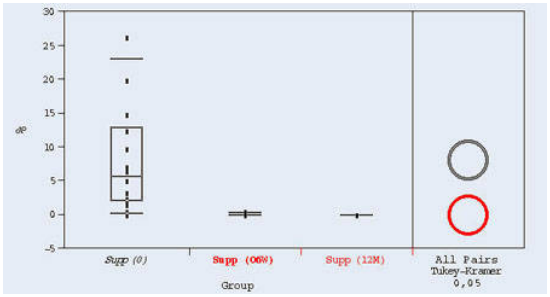

Fig. 5 Pooled data (test and control): Percentage of locations with positive suppuration (Supp) at baseline (0), six weeks (06W) and 12 months (12M) following Vector treatment

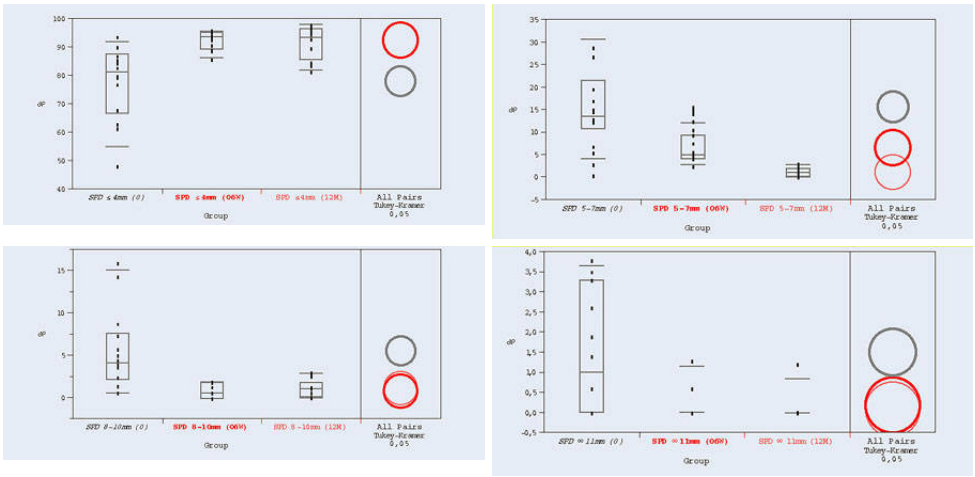

Fig. 6 Pooled data (test and control): Percentage of locations with a sulcus probing depth (SPD) of group 1: *4mm; group 2: 5mm-7mm; group 3: 8mm-10mm and group 4: *11mm at baseline (0), six weeks (06W) and 12 months (12M) following Vector treatment

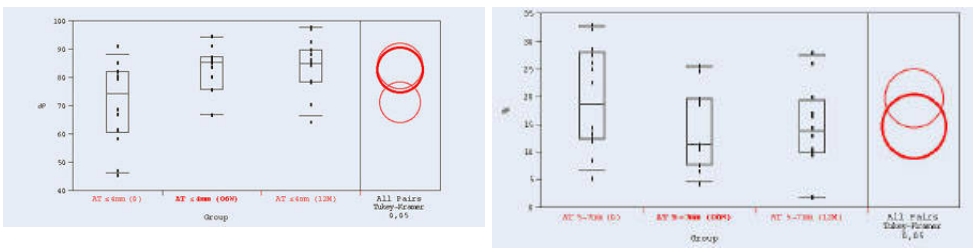

Fig. 7 Pooled data (test and control): Percentage of locations with an attachment level (AT) of group 1: *4mm; group 2: 5mm-7mm; group 3: 8mm-10mm and group 4: *11mm at baseline (0), six weeks (06W) and 12 months (12M) following Vector treatment

Fig. 8 Exemplary case: baseline condition before Vector treatment

Fig. 9 Clinical situation 6 weeks after Vector treatment

Fig. 10 Condition 1 year after single Vector treatment and Vector supportive periodontal therapie (3 months recall).

Discussion and Conclusions

Following Vector initial periodontal treatment, subjects show a minimal degree of periodontal inflamation and the sulcus probing depths are significantly reduced. These conditions could be maintained by Vector's supportive periodontal therapy with 3 months intervalls of recall over a period of one year. Twelve months after the initial treatment the attachment level could significantly be increased at locations with baseline attachment between 8mm and 10mm or beyond 11mm. The pH of the Vector coupling fluid seems to have a minor influence on the treatment outcome.

Bibliography

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This Poster was submitted on 16.11.00 by PD Dr. Rainer Hahn.

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Poster Faksimile:

ONE YEAR CLINICAL MONITORING OF PATIENTS WITH ADULT PERIODONTITIS FOLLOWING VECTOR TREATMENT

R. HAHN (SCHOOL OF DENTAL MEDICINE, UNIVERSITY OF TUEBINGEN, GERMANY)

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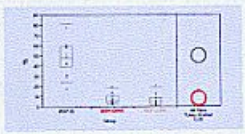

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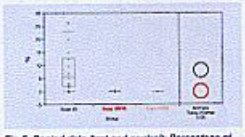

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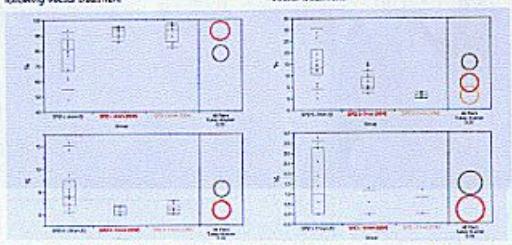

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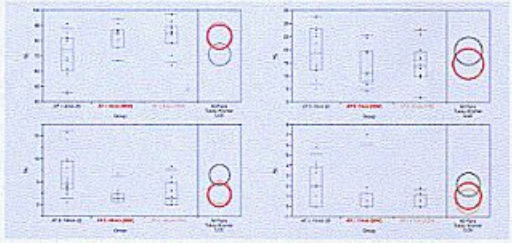

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DISCUSION / CONCLUSIONS

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