*ANGLE ORTHODONTIST



An International Journal of Orthodontics and Dentofacial Orthopedics

HOME JOURNAL SUBSCRIBERS AUTHORS REVIEWERS SOCIETY RELATED LINKS HELP

Quick Search

Advanced Searc

Home > The Angle Orthodontist > September 2009 > Effects of CPP-ACP Paste on the Shear Bond Strength of Orthodontic Bra...

ember 2009) ✓ Previous Article Volume 79, Issue 5 (September 2009) Next Article ►

Add to Favorites
Share Article
Export Citations
Track Citations Permissions

Full-text

PDF

Ding Xiaojun, Lu Jing, Guo Xuehua, Ruan Hong, Yu Youcheng, Gu Zhangyu, Jian Sun (2009) Effects of CPP-ACP Paste on the Shear Bond Strength of Orthodontic Brackets. The Angle Orthodontist: Vol. 79, No. 5, pp. 945-950.

Original Articles

Effects of CPP-ACP Paste on the Shear Bond Strength of Orthodontic Brackets

Ding Xiaojun^a, Lu Jing^b, Guo Xuehua^c, Ruan Hong^d, Yu Youcheng^e, Gu Zhangyu^f, and Jian Sun^g

Abstract

Objective: To evaluate the effect of casein phosphopeptide—amorphous calcium phosphate (CPP-ACP) paste on shear bond strength and debonding failure modes of orthodontic brackets.

Materials and Methods: Freshly extracted premolars were randomly divided into four groups (n =18) as follows: in groups 1 and 3, the enamel was treated with a solution of CPP-ACP dissolved in artificial saliva; groups 2 and 4 served as controls, and the enamel was treated with artificial saliva. After conventional acid etching, in groups 1 and 2, brackets were bonded using a light-cured bonding system (Blugloo); while in groups 3 and 4, brackets were bonded using a conventional bonding system (Unite Bonding Adhesive). Bonded specimens were subjected to thermal cycling for 1000 cycles before debonding procedures. After debonding, teeth and brackets were examined under a stereomicroscope at 10x magnification to determine whether any adhesive remained, in accordance with the adhesive remnant index. The acidetched enamel surfaces were also observed using scanning electron microscopy after treatment with and without CPP-ACP paste.

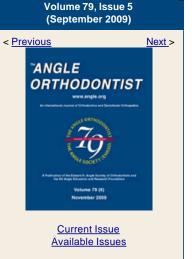
Results: The shear bond strengths of group 1 were significantly higher than those seen in group 2 (P < .01). There was no significant difference in the shear bond strengths of groups 3 and 4 (P > .05). Scanning electron microscopic observation showed that the pretreated enamel surface was rougher than that of the control surface after acid etching.

Conclusion: The use of CPP-ACP can be considered as an alternative prophylactic application in orthodontic practice since it did not compromise bracket bond strength.

Keywords: Shear bond strength, Casein phosphopeptide–amorphous calcium phosphate, Enamel, Orthodontic brackets

Accepted: December 2008;

- ^a PhD student, Department of Stomatology, Zhongshan Hospital, Shanghai Medical School, Fudan University; Ninth People's Hospital, School of Stomatology, Shanghai Jiao Tong University School of Medicine; Shanghai Key Laboratory of Stomatology and Shanghai Research Institute of Stomatology, Shanghai, China.
- ^b Associate Professor, Ninth People's Hospital, School of Stomatology, Shanghai Jiao Tong University School of Medicine; Shanghai Key Laboratory of Stomatology and Shanghai Research Institute of Stomatology, Shanghai, China.
- ^c Resident, Department of Stomatology, Zhongshan Hospital, Shanghai Medical School, Fudan University, Shanghai, China.
- ^d Resident, Department of Stomatology, Zhongshan Hospital, Shanghai Medical School, Fudan University, Shanghai,





Journal Information

ISSN: 0003-3219 Frequency: Bimonthly

Register for a Profile

Not Yet Registered?

Benefits of Registration Include:

- A Unique User Profile that will allow you to manage your current subscriptions (including online access)
- The ability to create favorites lists down to the article level
- The ability to customize email alerts to receive specific notifications about the topics you care most about and special offers
 - Register Now!

Related Articles

Articles Citing this Article

Google Scholar

Search for Other Articles By Author

- Ding Xiaojun
- € Lu Jing
- € Guo Xuehua
- ∈ Ruan Hong
- Yu Youcheng
- € Gu Zhangyu
- € Jian Sun

Search in:

jn Angle Online

Search



- ^e Professor, Department of Stomatology, Zhongshan Hospital, Shanghai Medical School, Fudan University, Shanghai, China.
- ^f Associate Professor and Chair, Department of Stomatology, Zhongshan Hospital, Shanghai Medical School, Fudan University, Shanghai, China.
- ⁹ Professor, Ninth People's Hospital, School of Stomatology, Shanghai Jiao Tong University School of Medicine; Shanghai Key Laboratory of Stomatology and Shanghai Research Institute of Stomatology, Shanghai, China.

Corresponding author: Dr Jian Sun, Ninth People's Hospital, School of Stomatology, Shanghai Jiao Tong University School of Medicine; Shanghai Key Laboratory of Stomatology and Shanghai Research Institute of Stomatology, 639 Zhizaoju Road, Shanghai 200011, China (jianjian60@yahoo.com)

top 🛎

© 2010 The E. H. Angle Education and Research Foundatio

Allen Press, Inc. prints The Angle Orthodontis

Allen Press, Inc. assists in the online publication of The Angle Orthodontis

Technology Partner - Atypon Systems, Inc.