

SEDENTEXCT 2011 Radiation Protection: Cone Beam CT for Dental and Maxillofacial Radiology. Evidence Based Guidelines. http://www.sedentext.eu/system/files/sedentext_project_provisional_guidelines.pdf

World Dental Federation 2012 Report links dental x-rays to brain tumours. http://www.fdiworldental.org/news?p_p_id=56_INSTANCE_HjF1&newsId=250858

European Journal of Orthodontics 35 (2013) 139

doi:10.1093/ejo/cjs048

Advance Access publication 20 November 2012

Comparison of self- and conventional-ligating brackets in the alignment stage

Dear Sir,

In volume 34 issue 2 of the *European Journal of Orthodontics* the readers can find an article by Wahab *et al.* (2012) on comparing the efficacy of Damon™ 3 self-ligating brackets (SLB) with Mini Diamond conventional ligating brackets (CLBs) in alignment of the upper labial segment teeth during fixed appliance therapy. We would like to express several concerns regarding this article.

First of all, the authors need to be congratulated on their methodologically sound RCT studies in which patients between 14 and 30 years of age (mean 20.7 years) who met the inclusion criteria, were invited to participate and were randomly allocated to be treated using either SLB or CLB. However, we could not find any information on how patients were randomly allocated into the groups. In addition, the age span from 14 to 30 years old is large. Because we know that teenagers are more sensitive to force than adults, and crowding is relieved more easily (Kyomen and Tanne, 1997).

Further, there are several statements reported in the paper that are inaccurate. For example, Mini Diamond brackets aligned the teeth faster than Damon™ 3 but only during the first month, while in Table 2, there is no statistically significant difference in the rate of tooth alignment (LII scores) changes during treatment for the two bracket groups. Moreover, the results of this study indicate that in general, SLB are not superior to CLB in terms of tooth alignment during the aligning and levelling stage, but Table 3 shows that CLB showed 98 per cent of crowding alleviation as compared with 67 per cent for SLB after 4 months of alignment and levelling. The percentage of crowding alleviation nearly closed to 100% in CLB while only 67% in SLB. These facts contradicted the authors' conclusion that SLB are not superior to CLB.

Third, the authors state that 'there is a difference between the displacement of the six anterior teeth, so aligning teeth

may take more time'. Pandis *et al.* (2007) showed that the Damon 2 brackets aligned the teeth 2.7 times faster than conventional bracket in the moderately crowded cases.

Fourth, in the abstract Mini Diamond brackets aligned the teeth faster than Damon™ 3 but only during the first month. There was no difference in efficacy between the two groups in the later 3 weeks. Accordingly to the article instead of stating '3 weeks' it should state '3 months'.

Finally, the authors' observation time is only 4 months, the time is too short. In my clinical practice, I find that SLB align upper teeth faster than traditional bracket because of lower friction (Kapur *et al.* 1998; Harradine, 2008). If the trial time was extended would the result be different?

Zhou Yu and Hu RongDang
Department of Orthodontics
WenZhou Medical College
Wenzhou
China

References

- Harradine N W T 2008 The history and development of self-ligating brackets. *Seminars in Orthodontics* 14: 5–18
- Kapur R, Sinha P K, Nanda R S 1998 Frictional resistance of the Damon SL bracket. *Journal of Clinical Orthodontics* 32: 485–489
- Kyomen S, Tanne K 1997 Influences of aging changes in proliferative rate of PDL cells during experimental tooth. *Angle Orthodontist* 67: 67–72
- Pandis N, Polychronopoulou A, Eliades T 2007 Self-ligating vs conventional brackets in the treatment of mandibular crowding: a prospective clinical trial of treatment duration and dental effects. *American Journal of Orthodontics and Dentofacial Orthopedics* 132: 208–215
- Wahab R M A, Idris H, Yacob H, Ariffin S H Z 2012 Comparison of self- and conventional-ligating brackets in the alignment stage. *European Journal of Orthodontics* 34: 176–181