Comments on: “Efficacy of low-level laser therapy in the management of orthodontic pain: a systematic review and meta-analysis”

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Dear Editor,

I read with great interest the online first article by He et al. [1] entitled “Efficacy of low-level laser therapy in the management of orthodontic pain: a systematic review and meta-analysis.” The authors concluded that laser therapy had favorable effect in dealing with orthodontic pain.

I wonder why one article [2] published in 2011 was not included, since this study was also a randomized controlled trial about laser therapy in the management of orthodontic pain.

Previous systematic reviews concerning orthodontic pain management [3, 4] measured the outcomes between the intervention group and placebo group by the intensity of pain at each point of follow-up using Visual Analog Scale (VAS), which should be considered as the primary outcome. Yet in this review, the authors did not define the primary outcome and measured many alternative indicators and did not separate the placebo and control groups. Also, the methods of pain evaluation by most trials included in this review were self-designed questionnaires which differed from each other. Though some of these outcomes showed favorable effect, it was not convincing that laser therapy for relieving the pain was beyond a placebo effect. The authors mentioned low risk of selective reporting bias for all the included studies in the “assessment of risk of bias”; however, none of the trial’s protocol was available online and most trials did not report any data of the intensity of pain at each point of follow-up,

which could be due to lacked of statistical significance in this outcome. Furthermore, some included studies [5, 6] were short of detailed outcome data, so the risk of bias for most trials in this domain of assessment should be unclear or even high risk. Thus, the efficacy of laser therapy for managing orthodontic pain needs to be interpreted with more caution.

References

1. He WL, Li CJ, Liu ZP, Sun JF, Hu ZA, Yin X, Zou SJ (2012) Efficacy of low-level laser therapy in the management of orthodontic pain: a systematic review and meta-analysis. *Lasers Med Sci*. doi:10.1007/s10103-012-1196-y
2. Esper MA, Nicolau RA, Arisawa EA (2011) The effect of two phototherapy protocols on pain control in orthodontic procedure—a preliminary clinical study. *Lasers Med Sci* 26(5):657–663
3. Xiaoting L, Yin T, Yangxi C (2010) Interventions for pain during fixed orthodontic appliance therapy. A systematic review. *Angle Orthod* 80(5):925–932
4. Angelopoulou MV, Vlachou V, Halazonetis DJ (2012) Pharmacological management of pain during orthodontic treatment: a meta-analysis. *Orthod Craniofac Res* 15(2):71–83
5. Lim HM, Lew KK, Tay DK (1995) A clinical investigation of the efficacy of low level laser therapy in reducing orthodontic postadjustment pain. *Am J Orthod Dentofacial Orthop* 108(6):614–622
6. Youssef M, Ashkar S, Hamade E, Gutknecht N, Lampert F, Mir M (2008) The effect of low-level laser therapy during orthodontic movement: a preliminary study. *Lasers Med Sci* 23(1):27–33

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