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Letters to the Editor

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Conundrum in vertical dimension changes

Dear Sir,

I have read with interest the article by Chhibber *et al.*, (2011) comparing the changes produced by the Begg appliance and the preadjusted edgewise appliance (PEA) on vertical dimension. The theory of the occlusal wedge hypothesis has been researched extensively in recent times for its appropriateness in the clinical treatment scenario and no firm evidence has been substantiated (Sivakumar and Valiathan, 2008; Gkantidis *et al.*, 2011). I have few concerns that I would like to raise.

The present study results could have been more valid if a control sample (non-extraction group) has been used in each group (Begg and PEA). This would have allowed the treatment changes from the extraction protocol to be assessed.

The authors reported that in cases (PEA) where the bite deepened, an intrusion arch was used. There was no explanation in the article as why there was closure of the bite (Figure 2(d) in the article). It is a little unusual to retract the canines in round wire in a straight wire mechanics (except the Alexander Discipline mechanics). Could this have been a possible reason or really the occlusal wedge hypothesis in action?

The authors discussed that the Begg technique was marginally better at conserving anchorage than the PEA. As part of the study protocol, the authors never considered any form of anchorage support in the PEA cases although the conventional Begg technique had inherent differential anchorage support. Hence, it is prudent to argue that there will be more anchorage slippage in the authors' PEA sample. I feel that our treatment mechanics and protocols should dictate the treatment outcome and not the technique as such.

Even though the sample included subjects in cervical vertebral maturation (CVM) stage VI of skeletal maturity, the contribution of 'residual growth' to the treatment effects needs clarification. The increase in face height and the mesial movement of molars could be consequent to mechanotherapy or residual growth (Gardner *et al.*, 1998; West and McNamara, 1999).

Arunachalam Sivakumar
Department of Orthodontics, Vishnu Dental College, Bhimavaram, Andhra Pradesh, India

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Reply

Dear Sir,

We would like to thank Dr Sivakumar for his interest in this article and for the comments.

We agree with Dr Sivakumar that there should have been a control sample to analyse the effect of extractions in both Begg and pre-adjusted edgewise appliance (PEA) so that the hypothesis of the 'wedge effect' could be verified to a greater accuracy. However, as Dr Sivakumar points out himself that the wedge hypothesis has been studied extensively, the objective of this study was to analyse this concept further by trying to understand if there would be a difference between the Begg and PEA treatment techniques in