Table. Diagnostic accuracy of the CVM3-CVM4 interval in the identification Co-Pog peak

	Age intervals, y						
Sex	*9-10*	*10-11*	*11-12*	*12-13*	*13-14*	*14-15*	*Overall*
Males (n = 14)	–*	1 (1-1)	0.71 (0.48-0.95)	0.36 (0.11-0.61)	0.36 (0.11-0.61)	0.71 (0.48-0.95)	0.63 (0.41-0.83)
Females (n = 12)	1 (1-1)	0.58 (0.30-0.86)	0.58 (0.30-0.86)	0.33 (0.07-0.60)	0.42 (0.14-0.70)	–*	0.58 (0.33-0.83)

Note. Data are presented as mean (95% CI).
Co-Pog, condylion-pogonion.
*Indicates not included.

the CVM method in predicting the pubertal growth spurt."

To conduct a diagnostic performance analysis, Montasser followed the procedure initially described by Perinetti et al[1] (although not acknowledged). Despite this effort, the conclusions did not appear to be supported by the data. As a representative example, data related to the condylion-pogonion increments may be considered, where diagnostic accuracy values for the CVM3-CVM4 interval (Table III in Montasser's article) ranged from 0.33 to 1.0 (including both sexes). Most of these values were less than 0.71, which is far from being representative of a reliable diagnostic method. By using the data reported in the article, the overall diagnostic accuracy values (across all age ranges), along with the 95% CIs, have been calculated[2] (Table). These overall mean values are extremely low, with 0.63 and 0.58 for males and females, respectively.

The unpredictable variable duration of each CVM stage (as for every stage-based radiographic growth indicator) was not discussed at all, even though this would be a noteworthy limitation of the clinical applicability of the CVM method.[3] Whereas full transparency when investigating such a controversial issue would be preferable, no data has been reported on the linear measurements, either for each case or as a whole.

The present study shows only a correlation between the CVM and growth, which cannot be confused with diagnostic accuracy of a given CVM stage in the identification of an imminent growth peak.[4] Therefore, the data reported in the article support only the poor validity of the CVM method in predicting the pubertal growth spurt.

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Author's response

I appreciate the feedback about my article "Craniofacial growth spurt in Class I subjects" (Am J Orthod Dentofacial Orthop 2019;155:48-56). In response, I will start by addressing the point raised about transparency in data reporting. Linear measurements of growth increments were not presented based on the extent to which this data would serve the research objectives. Presenting the data as I did in the article was justifiable because the focus of the study was not on numbers or amounts, but on the presence (positive) or absence (negative) of a certain event. Therefore, details about the criteria and method used to determine the peak of the growth spurt were required and fulfilled. Authors should have been aware that presenting the data differently than what they thought to be the right way should not be considered as a violation of transparency in such a hasty manner. Although, linear measurements were presented in previous studies in the main manuscript[1] or in appendix[2], the method of data presentation used in my article was also established in the literature.[3]

The accuracy of results should not be interpreted in isolation but in conjunction with other predictive values.

Contrary to sensitivity and specificity, diagnostic tests, such as positive predictive values and negative predictive values, perform differently based on the frequency of the targeted event or condition. Calculating the mean accuracy for cervical vertebrae maturation (CVM)3–CVM4 of different age intervals, as the writer suggested, would lead to erroneous interpretations. In addition, the writer focused on the results of CVM3–CVM4 but ignored the findings of CVM2–CVM3, which also included CVM3.

Regarding the lack of discussion of the unpredictable variable duration of each CVM stage, it was because of the variation in the duration of each CVM stage that the amount of growth was evaluated based on annual intervals. CVM stages were described in the article as a "continuum of morphologic and dimensional stages," stressing the findings of a previous study that no sharp or distinct demarcation between CVM stages could be detected.[1] Considering the presence of early, average, and late growth maturers, 3 growth intervals were investigated. A notion about the relationship between the growth types (vertical, average, or horizontal) and rate and timing of peak of mandibular growth was also suggested. In the Conclusion section, the article proposed evaluation of the shape of the CVs alongside the assessment of the CVM stage.

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Autotransplantation and healing

We read with interest the case report, "Autotransplantation of premolars and space closure in a patient with inflamed sinuses," by Nahm et al in the February 2019 issue (Nahm KY, Iskenderoglu NS, Lee JA, Lee JY, Chung KR, Kim SH, Nelson G. Am J Orthod Dentofacial Orthop 2019;155:276-87). We congratulate the authors for their well-planned and well-executed treatment for agenesis of all maxillary premolars, which included autotransplantation of the mandibular second premolars. We would like to comment on 2 issues raised by the authors, with the objective of clarifying some possible misconceptions regarding the process of healing.

The authors indicated that the pulp healing after autotransplantation of 2 immature mandibular premolars was manifested by the presence of pulp obliteration and incomplete apexification. Pulp obliteration is a typical finding after transplantation of immature teeth, and in this case report, pulp obliteration was present at the left transplanted premolar. However, incomplete apexification, as described by the authors and visible at the right transplanted tooth, was in our opinion and in accordance with the definition provided by Andreasen,[1] actually posttraumatic pulp healing called tissue metamorphosis or pulp metaplasia. This occurs when structures such as bone, periodontal ligament (PDL), and cementum invade the apical part of the pulp. It has been reported in experimental studies that partial removal of Hertwig epithelial root sheath, which can occur during ischemic damage or trauma during autotransplantation, may lead to restricted root development and invasion of PDL and bone into the pulp canal.[2] Histologically, this process is manifested by the presence of PDL and bone tissue inside the pulp canal, and therefore, pulp obliteration is limited to the more coronal part of the root. Both pulp canal obliteration and pulp metaplasia were described by Andreasen[1] as pathologic healing events in relation to healing after traumatic dental injuries. However, pulp canal obliteration after transplantation of developing teeth is regarded as a normal healing phenomenon and a sign of pulp revascularization and preservation of pulp vitality. In addition, pulp obliteration does not result in unfavorable prognosis of transplanted teeth with developing roots long term.[3] Pulp metaplasia can be sometimes observed on radiographs after transplantation of immature premolars, but there is no evidence in the literature or from our clinical experience, that this might be a contributing factor for either short-term or long-term loss of a transplanted premolar. Transplantation surgery can