## April 2021

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### APRIL 2021 LEARNING OBJECTIVES:

After completing this course, the participant will have:

1. Knowledge of the potential for gingival crevicular fluid biomarkers, serotransferrin, and vitamin D binding protein, to aid in the assessment of the pubertal growth peak.
2. Awareness of how periodontal scaling either once per month, once every 3 months, or once every 6 months may affect the gingival health of adolescent orthodontic patients.
3. An understanding of the impact that Dental Monitoring (DM) can have on the outcome of clear aligner treatment.
4. After Class II treatment with the modified C-palatal plate appliance, familiarity with the changes observed in the outcomes of treatment, the volume of the maxillary tuberosity, and the airway space.

### Article 1: Preliminary validation of serotransferrin and vitamin D binding protein in the gingival crevicular fluid as candidate biomarkers for pubertal growth peak in subjects with Class I and Class II malocclusion, by Xi Wen et al

1. This study aimed to preliminarily validate serotransferrin (TF) and vitamin D binding protein in subjects with Class I, Class II, and Class III malocclusions, to compare their diagnostic accuracy, and to construct a statistic model to help the diagnosis of skeletal pubertal growth.
   1. True
   2. False

2. The inclusion criteria for subjects were as follows: (1) aged between 6 and 18 years; (2) healthy periodontal status; (3) skeletal Class I ($0° < ANB < 5°$) or Class II ($ANB > 5°$) malocclusion; (4) no history of orthodontic treatment; (5) no systemic disease; (6) not taken medication in the past 3 months; and (7) Mongolian.
   1. True
   2. False

3. The authors reported that the vitamin D binding protein exhibited the best diagnostic accuracy among the gingival crevicular fluid biomarkers.
   1. True
   2. False

4. The authors concluded that TF and gingival crevicular fluid would not serve as potential biomarkers of pubertal growth peak.
   1. True
   2. False

### Article 2: Comparison of the efficacy of different periodic periodontal scaling protocols for oral hygiene in adolescents with fixed orthodontic appliances: A prospective cohort study, by Chunmiao Jiang et al

5. The purpose of this study was to compare the effects of different periodic periodontal scaling protocols on the periodontal health of adolescents with fixed orthodontic appliances by assessing the serotransferrin and alkaline phosphatase levels in gingival crevicular fluids and periodontal clinical indexes in a prospective cohort study.
   1. True
   2. False

6. The final sample for this study comprised 54 participants divided into 3 groups of 18 adolescents each.
   1. True
   2. False

7. The authors reported no significant differences between the levels of aspartate aminotransferase and alkaline phosphatase for subjects that were scaled once a month or once every 3 months at the 9-month evaluation period.
   1. True
   2. False

8. The authors concluded that periodontal scaling conducted monthly or once every 3 months is more effective than treatment administered every 6 months.
   1. True
   2. False

### Article 3: Outcomes of clear aligner treatment with and without Dental Monitoring: A retrospective cohort study, by Ismaeel Hansa et al

9. This study's null hypothesis was that there are no differences between Invisalign with and without DM for the measured parameters used in this study.
   1. True
   2. False

10. Data was gathered on the differences observed between the control and experimental groups for the following areas: treatment duration, number of refinements, number of refinement aligners, time to the first refinement, number of appointments, number of emergency visits, reasons for emergency visits, and accuracy of predicted tooth movement.
    1. True
    2. False

11. The authors reported no significant differences between the DM group and control group in terms of treatment duration, number of refinements, number of refinement aligners, or number of emergency visits, respectively.
    1. True
    2. False

12. The authors concluded that DM did not significantly reduce the number of in-office visits over the average duration of treatment.
    1. True
    2. False

**Article 4: Total maxillary arch distalization with modified C-palatal plates in adolescents: A long-term study using cone-beam computed tomography,** by Alex Hung Kuo Chou et al

13. The objectives of this study were to evaluate the long-term skeletodental effects after distalization with modified C-palatal plate (MCPP) in adolescent patients using cone-beam computed tomography images and to compare the changes in the volume of maxillary tuberosity and airway space in this group with a matched control group.
    1. True
    2. False

14. The experimental sample comprised 20 patients treated with maxillary molar distalization using a MCPP appliance.
    1. True
    2. False

15. The authors reported that the volume of the maxillary tuberosity in the MCPP group showed a decrease after treatment and during long-term retention.
    1. True
    2. False

16. The authors concluded that the improved sagittal skeletal and dental relationships because of treatment were diminished over the long-term evaluation.
    1. True
    2. False