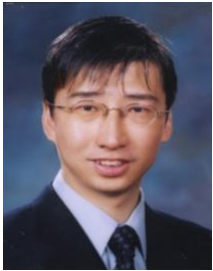


11h30 : Intervention à distance de Kee- Joon LEE (Séoul, Corée du Sud)



**NOUVEAU PARADIGME POUR LE TRAITEMENT NON CHIRURGICAL DE
PATIENTS HYPERDIVERGENTS : INGRESSION TOTALE D'ARCADE ET
REMODELLEMENT SYMPHISAIRE**

Résumé :

Vertical excess of the facial dimension is common and can be expressed in various ways-gummy smile, lip incompetency and/or retrusive mandible. Due to the genetic nature of the vertical growth, however, it has been recognized as very challenging to correct the hyperdivergent face. A latest meta-analysis revealed the lack of clinical evidence in the vertical control using conventional appliances including high pull head gear. In contrast, a reliable dentoalveolar movement using miniscrews is inspiring. Our recent clinical study revealed the possibility of total arch movement depending on the force direction with regard to the com, magnitude and the timing of the force application. the vertical control of the face can be clinically effective. In this session, the biomechanics, clinical effects and stability of vertical control using total arch intrusion will be explained in the aspects of etiology, protocols and stability. Additionally, possibilities of four-dimensional movement for children with hyperdivergent face involving 'symphyseal remodeling' will be demonstrated.



1) Esthetic goals – application of soft tissue paradigm

A harmonious perioral muscular function is a determinant for balanced dentofacial growth and development and in particular the perioral region plays an essential role in facial attractiveness. However, previous literature indicated variation in the vertical dimension is hardly noticeable. Moreover, there has been scarce evidence in the true vertical control possibly due to the genetic nature of vertical dimension. In contrast, some soft tissue phenotypes such as lip incompetency and mentalis hyperactivity have been recognized as a significant contributor for facial aberrancy.

To our surprise, our recent study revealed no significant relationship between vertical hard tissue measurements and soft tissue phenotypes. Taken together, it is reasonable to recognize the vertical facial morphology based on soft tissue phenotypes.

2) Biomechanics of labial/lingual total arch intrusion

Biomechanical backgrounds and related strategies using miniscrews are to be explained. Considering the strong genetic nature of the circummaxillar sutures, it is reasonable to conduct major dentoalveolar intrusion rather than suppression of sutural growth. The behavior of the whole arch in response to various force vectors will be presented using both experimental and clinical data. The total arch intrusion in both labial and lingual orthodontics will be demonstrated. Depending on the time point when the total arch intrusion was performed, the clinical outcome may vary. Combination of the treatment concepts with or without extraction and understanding on normal growth pattern may lead to significant resultant. In addition, to find the best indication and to anticipate the prognosis, diagnoses have to be made based on the soft tissue paradigm.

3) Biology of symphyseal remodeling

Considering the general rule of the facial esthetics, relative position of the lower incisors is an important determinant. There is a conflict of interest between the facial esthetics and the IMPA angle, which is, normal IMPA would worsen the facial profile in terms of favorable 'Holdaway ratio'. Therefore a tooth movement inducing 'symphyseal remodeling' may be inevitable in many hyperdivergent faces with either Class II or Class III skeletal pattern. The rationale, technical guidelines will be explained as well.