

# Case Report :

## Orthodontic treatment of posterior crossbite and crowding using MSE and TAD

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### Patient Information

- Age / Sex : 25/F
- Tooth Number : #13
- CC : high canine
- Dx : Skeletal transversal maxillary deficiency  
Rt. Posterior cross bite  
Rt. Class II molar occlusion  
Large overjet

### Treatment Plan

- 1) Maxillary expansion with MARPE
- 2) non-extraction
- 3) Molar key correction  
: Rt. molars distalization

#### Before

#### After



Posterior crossbite due to narrow Mx.  
Crowded teeth, Class II molar key

Class I molar key, normal occlusion

#### Before

#### After



### Clinical Procedures



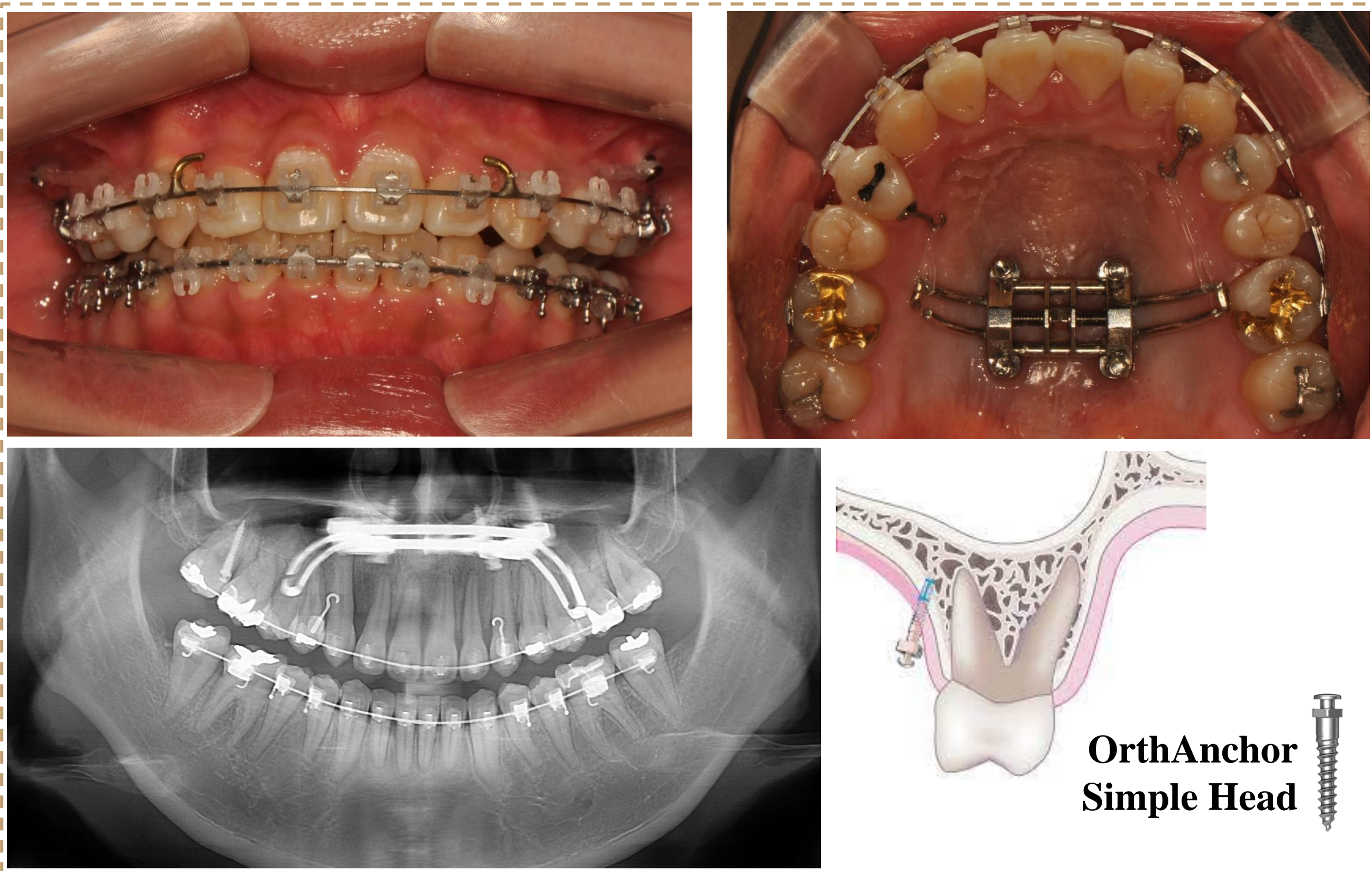
#### 1. Initial Records



Maxillary skeletal expansion with MSE(maxillary skeletal expander)  
• Anterior miniscrew 13mm 2 ea  
• Posterior miniscrew 11mm 2 ea

Opening of maxillary suture and diastema

#### 2. After maxillary skeletal expansion



2 methods of molar distalization  
1<sup>st</sup>. TAD of Infra-zygomatic crest(IZC) : To achieve molar distalization without the miniscrew coming into contact with the roots, Osstem OrthAnchor were placed as parallel to the tooth axis as possible.  
2<sup>nd</sup>. MSE was remained for anchors during orthodontic treatment. Elastomeric chains are engaged from lingual power arms attached on #14 and #23 to MSE arms

#### 3. Molar key correction and molar distalization



#### 4. Final Records

### Conclusion

- For sufficient molar distalization, a conventional miniscrew placed in the interdental alveolar bone has limitations. If a large amount of posterior tooth movement is planned without contact with the roots of the teeth, the IZC (Infra-zygomatic crest) area is more advantageous for the placement of the miniscrew.
- Typically, the MSE (Maxillary Skeletal Expander) is removed six months after maxillary skeletal expansion, but for molar distalization, it can be kept for a longer period and used to achieve posterior movement with the MSE arm.