**5th year Ortho .. lecture(1)**

 **Class I malocclusion**

-class I definition : Is When the incisal edges of the lower incisors occludes **with** or is **directly below** the **cingulum plateau** of the upper incisors. **Cingulum plateau** : (a flat area) in the middle of the cingulum

-class I **is the most common** malocclusion , 60% of the Caucasian race have a class I malocclusion. Most people have **class I with crowding.**

**-The etiology of class I malocclusion :**

**1- Skeletal factors.**

**2-Soft tissue factors.**

**3-Dental factors**

**1-The skeletal factors:**

Usually ,they are normal (skeletal class I) due to the process of dento-alveolar compensation .

**dento-alveolar compensation:**the adaptive mechanisms from the soft tissues- mainly- trying to compensate or camouflage the malocclusion by achieving an incisors class I in spite of the presence of skeletal problems .

**In skeletal class II ,we can achieve compensation by
1)proclination of the lower incisors
or**

**2)retroclination of the upper incisors**

**Transverse :** usually normal in class I.

**Vertical :Normaly** it’s a normal vertical relationship but it can be increased,the most common vertical problem with incisal class I is **increased facial height** (openbite ).

**2-Soft tissue factors.**

Usually normal favorable for compensation.

But there is a special case ,bimaxillary proclinaton where the Patient has full everted lips so **lips activity** is **reduced** & the balance is shifted toward the tongue **proclining the upper incisors** .

**Bimaxillary proclination** is common in afro-Caribbeans ..A soft tissue problem where there is an imbalance between the **forces of the tongue** & **the lips** ,when the tongue has a higher force so it pushes the teeth.

The type of appliance used in treating is **fixed appliance** because we want to retrocline the lower teeth ,not only the upper.

 it worth mentioning that it needs **permanent stabilization** especially in Africans because of the tongue.

**3-The dental factor:**

The main cause for class I malocclusion is dentally related ,mainly **teeth size /arch length discrepancy ,**

**crowding b**eing more common than spacing**.**

**Facial growth**  usually normal.may be associated with **increased facial height** (openbite) With **posterior growth rotation.**

**Incisal relationship** Overjet is usually normal but can be slightly increased

Openbite is normal or reduced but not increased except if we have erosion or attrition.

**Buccal segment relationship (molars & premolars)** Usually class I .

In patients with thumb sucking or in standing tooth,when trying to achieve full intercuspation in the rest position there is a **premature contact** so the patients deviates his mandible to one side.

**Objectives of treating class I malocclusion patients:**

1)we start correcting any mandibular functional problem (displacement or deviation).

-So if the patient has a crossbite ,we have to:

- expand the upper arch

-relief the crowding.

-Align the teeth

-Maintain the normal overbite ,

-Maintain overjet

-Control the labio-lingual postion of the incisors(not to procline it)

- maintain class I molar relationship.

**we correct the lower arch then build the upper arch depending on it.**

**-we accept the form & width of the lower arch because any change in postion is not stable**

**Treatment Options available in treating class I malocclusion (we assume that there is no skeletal problem so no camouflage ):**

**1)accept (no treatment) in mild malocclusion.**

Depending on **IOTN** we determine the severity of malocclusion. IOTN : index of orthodontic treatment need (A SCORE From 1-5) used to objectively determine the severity of malocclusion.

Mild cases usually are not treated or we can extract without appliances.

Sometimes all the teeth are well aligned except A local crowding so

**A)extract** B)**use a space maintainer** **C)let the teeth align by themselves**

**2)growth modification.** In removable applicane ,we do **tipping movement ,for single or two teeth only** not more.

For **multiple movements especially in both arches** we use **fixed appliances.**