**Single complete denture Vs natural teeth**

Single complete denture can be in upper opposed by natural dention of the lower . always we talk about CD in maxilla while natural teeth still in the mandible .

It is one of the most difficult cases we face in our clinical practice because we are talking about natural teeth that are very strong related to manufactured teeth . so most of these problems we have in long term as we see the lower opposed by upper synthetic arch we have what's called anterior hyperfunction syndrome we talked about it last week .

Upper ridge resorption not only the height is reduced but also the width will be reduced as well because it is movable .

Incisive papilla supposed to be in the dentate people is behind the palatal surface of the central incisors by 10-12 or some times reach 14 mm. now because of bone resorption you see the papilla migrates all the way up and labially setting on the crest of the ridge , this is one of the problems .

When we see natural teeth opposing synthetic teeth and most of the ridge get resorbed because the force from natural teeth is more stronger than alveolar bone itself.

**Single denture : greater force exerted by lower natural dentition cause :**

1/ displacement of the upper denture

2/sever maxillary residual ridge resorption .

3/ fracture of upper denture due to flexural .

**The difficulties or challenges that we face in single complete denture :**

1/Irregular occlusal plane due to :

over eruption,drifting and rotation of natural dentition.

As maxilla become become completely edentoulus & we don't expect that the pt extracts his all teeth in the same day ,and if not replaced by bridge or anything , so some of the teeth will be severlly over erupt while the other is moderately or mildly . (because nature don't like spaces and sometimes they get in contact with upper ridge ).

So we should solve this first , so the emphasis here is we should concentrate on how to pacify the occlusal plane in dentate arch before we think how to replace missing teeth in edentulous arch, and off course to address this type of problem can be done depending on severity of over eruption for each degree of overeruption there is a specific solution , that's why there is no general role for all these pts who has sharing same problem of having edentulous arch opposed by natural teeth ( they are either implant supported prosthesis or natural one that's mean there is something stable in the lower).

2/ discrepancy in the buccolingual dimensions between natural and denture teeth.

All natural teeth are wider in occlusal surface diameter than all manufactured teeth , the manufactures reduces the dimension of denture teeth in order to reduce the amount of force falling on .

***The larger the surface area exposed to occlusion , the more the load applied to the bases of the denture underneath***

So usually if you just compare any manufactured tooth with any natural tooth you see the difference in the diameter in surface area of two teeth , so this discrepancy makes problem of how to get the load applied to the denture base equally balance in both sides , so we have really to make sure that's upper denture is not over erupted by widely and strong opposing natural teeth.

3/ discrepancy in strength between natural and artificial teeth.

The natural teeth is stronger than any denture teeth and off course not the teeth itself get abraded over the years but also the bases of the denture itself will be subjected to fracture either in the mid line or where ever there is concentration of the load fallen on the teeth on denture base.

So these are the three situations that we find in every patient on single complete denture .

Failure to alter any of above conditions will prevent achieving balanced occlusion and will compromise the stability of the denture .

**Management of over eruption that cause irregularities in occlusal plane :**

**1.Enameloplasty : mild over eruption .**

Correction needed is within the thickness of the enamel we can do this by reshaping of the cusp tips on inclines where over eruption and apply topical florid before making the final impression .

**2.Overlay prosthesis made either co/cr or acrylic resin for moderate over eruption .**

Here what we do usually when teeth over erupting moderately where enameloplasty not enough to leveling them down to the same level of neighbouring teeth and this case we are going to expose dentine ( if dentin exposed accidently you have to do filling and restore the tooth then send patient home and in next visit you do adjustment over the restoration .)

In this case ( moderate over eruption ) we have to do something for teeth that are infraocclusion by bringing them higher to the level of those which are over erupting moderately and this simply can be made by overlay of the teeth that are infraocclusion.

**3.Fixed prosthesis : sever over eruption ,**

Crown or bridge for severely over erupting tooth .

And in sever over eruption when preparation of the crown is too much we do crown lengthening endo and post then crown .

Crown or bridge should be waxed against teeth .

In very sever cases where the tooth severly over erupted and not opposed by tooth it is indicated for extraction,

Back to the first point :

We need to do enameloplasty this is the condtion that shows you that when you put a plane on top of the teeth we may draw a line for amount of enameloplasty that is required , of course the rest of the curvature here is the curve of spee it has to be like this which is naturally .

-Cutting not only by cutting the tip of the cusp bbut also the inclination of the cusp .

(the dr was explaining something that I could not understand , anyone has notes about it plz let all benfit from )

Case :

Brusixm with sever attrision this is the case which is indicated overlay (strong indication ).

Case

Instead of cutting much more from the tooth that will expose the dentin we are going to raise the height of infraoccluded teeth and this is done .

Second problem we need to manage

**2.Discrepancy in dimension bucco lingually of the teeth**

Of course we can't equalize the diameter of the denture teeth by trimming or adjusting the dimension of natural teeth in opposing arch but we can simply reduce the area of contact occlusaly by leaving tooth from the denture out (use one premolar instead of two).

Short arch denture by reducing the # of posterior teeth

By this we reduce the surface area of contact occlusally against natural teeth and by this we are actually protecting the teeth from transferring force to underlying bone immediately and cause bone resorption .

**3.Discrepancy in the strength .**

\* abrasion of the denture teeth

\* recurrent mid linr fracture of maxillary denture .

This will make denture subjected to unequal stress that cause mid line fracture specially if the frenum is v shape and sharp which concentrate stress .

**Manegment of discrepancy in strength**

We have to strengthen the teeth and base itself .

***First : We have to change surface hardness of occluding surfaces of the teeth .***

Surface hardness is the surface quality not bulk quality , we don't simply take the tooth and put porcaline ( which is very rigid , noisy and their rigidity makes them translate the load directly to underlying bone and cause resorption.)

Try to avoid the porcaline teeth in denture.

We need acrylic teeth the bulk of acrylic teeth it self but the only thing need to be change is the occlusal surface make it from tuffer material that can not be abraded or that are equally strong as enamel .like :

Cast gold alloy .

High impact laminate has same color of the teeth .

**Second :To avoid fracture to the denture base itself:**

Most denture bases made of acrylic (polymethalmethacylate) , nowadays producing high impact acrylic ,others like to replace it with metallic co/cr .

**Two reasons for using metallic :**

1.reduce the thickness to the minimum

without compromising the strength .

2.thermal conducting.

Some don't like to have metal in there roof of the mouth so we use kind of mesh that is introduced within the thickness of acrylic base , and this is high impact made of high impact acrylic that is reinforced,

Or we can use the strongest material ever which is carbon fibers ,, it is more stronger than any mesh made of (high impact acrylic mesh) because the carbon fibers make carbon double bonds with polymethalmethacrylate . carbon color is dark black .

Done by mais al refai .

[[1]](#endnote-1)

1. [↑](#endnote-ref-1)