**single denture**

very imp lecture , next lecture will be about anterior hyper function syndrome this is

aims of the lecture :

to analyze the challenges that’s counter you in the single denture -

-the difficulties in the single denture

the deference's between the single denture and the complete dentures for both arches-

treatment planning of a single denture-

- clinical steps and some cases

Introduction

what is the single Denture? When any patient comes to you with one arch need to be restored and it is opposed with non edentulous arch , (one arch has teeth, the other arch completely edentulous)

-Branemark is the professor that invent the implant, the reason of inventing the implant was edentulous patient , he consider edentulous patients as severe case that need attention and rehabilitation, we should consider it as missing any other parts of the body .

-now as restorative dentist or prosthodontic you don't want only to replace what is missing , the first thing in your treatment plan should be preserving what the patient already have and then replace what is missing ; if you make for him an RPD and he has periodontal disease he will lose what he already have .

- mandibular canine is the most commonly retained teeth , then the mandibular incisors ; these teeth are the last to be destructed , we usually see the edentoulesm in the maxillary arch.

-we have 4 cases for the single denture :

the single denture could be opposed by teeth , fixed restoration like abridge or RPD

-or the patient may came with satisfactory upper complete denture and he request lower denture for example, resorption had occur for the ridge and the denture become over extended and the patient come to replace it also this case considered as single Denture

-How do we do treatment plane?

single dentures is more difficult than the complete denture for both arches

we have to be objective to preserve the remaining structures ;how? by considering the biological and the biomechanical challenges

-what is the Biological challenges?

* Dental caries
* periodontal disease
* residual ridge resorption

-so the treatment plane should preserve what is remaining before replacement of what is missing.

-residual ridge resorption can be accelerated when the forces are not even , when we have edentulous are facing dentate are resorption will occur faster and we will see more flabby ridge than when we have two edentulous areas facing each other.

- Now the Biomechanical challenges : any patient that loose his teeth will start getting bone resorption , the bone resorption in the upper will lead to reduction in the size of the maxilla so it will go up and become narrower, and in the mandible it will become wider because the reduction become down so when mandible resorb it will become wider this will lead to jaw relation extremes ,this will lead to crossbite or class 3 , so when you set up the teeth you will see that this patient is class 3 , he wasn't crossbite patient but with the severe resorption he became like this

-we test the force for a patient with denture and then we do the same test for patient with teeth , the patient with teeth will generate more forces than the patient with complete denture because of the periodontal ligament , it has proprioceptive feedback so he will get better feeds of what he is betting on so he can generate greater force, so in these situation when we have edentulous ridge opposing teeth then we will have more resorption and flabby ridge

-also the irregular occlusal plane is another Biomechanical challenge , so if you have no opposing teeth supra eruption may happen and loss of the interocclusal space (sometimes not always), also rotation or drifting could happen , the discrepancy when i put the occlusal table

-usually the companies make the acrylic teeth smaller than natural teeth , even the largest size is smaller than natural teeth so we will have smaller occlusal table this will be easier in mastication with less force , so less force on the tissue and as we said before because the denture patient can't apply force as the dentate patient

-so if we have lower dentate opposing maxillary denture, you may get extreme forces from the natural teeth thats will leads to fracture ,so to overcome this we can reinforce it with metal , and in this way it will tolerate the forces from the opposing dentition

Now we know what are the challenges , we will talk about the treatment plane.

treatment planning , is not very difficult but it is essential

there are some consideration you have to take ,the most important one is the patient expectations, sometimes because we don't have time we miss this point, but it is very imp factor for successful RPD or complete denture, usually the fixed prostheses is better accepted by the patient than the removable one.

- we have to manage the patient expectations you have to tell them that is removable prostheses and it won't serve as good as fixed one , the more you manage the expectation the more the successful the treatment is , if you manage the patient expectation and you did the very bad denture the patient may accept it but if you done the best denture ever and you didn't manage the patient expectations then it could be failure because the patient want something more.

So in the single denture you have to have good communication with your patient. -

always try to imagine the end result before you start in every work you do-

-now what we want to achieve is basics we want to have appropriate occlusal distance we want to create occlusion at the centric relation , we want to make reorganization of the occlusion because we don't have stable occlusal position , also we want the forces to be directed with the long axis of the teeth either the natural or the acrylic teeth and we want to avoid any interferences in the lateral movement, because interferences will lead to dislodgment of the denture or fracture of the teeth and soreness of the gingiva , so we want to achieve smooth Ant guidance .

this is very easy to do when we have complete dentures on both jaws because you can control the free way space , the centric relation and the bilateral contacts and you can control everything , but it is more difficult in single denture.

the doctor showed a case and he said that it is difficult here to achieve proper vertical dimension because of the supra eruption ,also it is difficult to achieve bilateral contact and making the force with the long axis of the tooth also will be difficult because the teeth are smaller, so we see that single denture is more difficult.

-Now let's discus the cases that could come with a single denture :

Single denture opposing natural teeth -

-the doctor showed a case , the occlusal plane supra erupted and not even , so in this case we either leave the occlusal plan like this or we need to reorganize it, usually here if we try to achieve Ant guidance there will be interferences so it is better to reorganize it, We can see also bigger mold of teeth but still smaller than the natural teeth.

-we do estimation to see what is easier to do , complete upper opposing natural lower or complete lower opposing natural upper , we see that upper denture is easier , because we have less resorption and more support and retention and more peripheral seal, and the mandibular denture is more movable because of the tongue .

-the most clinical situation you will face is lower natural teeth with upper complete denture

-the most common error you can do is to accept the occlusal plane, unfortunately we usually do this in the clinic.

- complete upper denture and lower natural teeth , this case occur because the patient retain lower ant teeth because it is easier to clean and the saliva came lingualy , and extraction of upper teeth is easier , so usually if they have problem in upper teeth they extract them.

-But when we have teeth on the upper and we want to construct lower denture(which is rare case) it will be very difficult to treat , too much force on the lower denture and it will be unretentive , unsupportive and the patient won't be happy, so it is contraindicated to do this , so what is the treatment choices for this case? we think of implant , but some patient can't afford it , in the old school they used to extract the upper teeth and make both upper and lower complete dentures.

But the patient will ask you about the cause of extraction and may sue you , so we don't want to extract teeth for only making denture , so we try to do the best denture we can , we try to make flat occlusal surface and we try to make good retention , if he can't afford implants.

-now we will go to the fixed prostheses, we either have already fixed or we want to replace missing teeth with fixed restorations at the same time we want to construct the denture , if the fix restoration , it is simple and easy as if you have natural dentition and also it is a chance for fixing the patient occlusion and fix the occlusal plane

now single denture opposed by RPD , this is the most common situation , this will be the topic for the next lecture.

-single denture opposed by existing denture , as we said some patient come to you complaining from one denture , so the only choice you have is to make sure that the existing denture is good so these denture usually doesn't full the criteria , you have to make tests for the denture before you decide you will keep it , usually we keep the upper and do the lower because it is the most common to counter problem with it , you will have the responsibility for both denture the old one on the upper arch and the new one on the lower , so make sure that the upper is excellent before you start working , always remember it is easier and more controllable to do dentures for both arches rather than one.

-A student ask about the setting of teeth , do we take the upper denture and do setting of the lower accordingly ? yes we take impression for the denture outside the patient mouth and pour it with stone

-we will talk about the clinical steps for 2 cases :

we have to follow the steps, first we do perio treatment and stabilization phase then endo , extraction for the poor prognostic teeth , as needed.

First case , single edentulous upper ,we see the lower arch , first we do perio, endo, extraction , now every things is healthy we took impression and poor it and take the secondary impression( the material was medium body silicone mixed with light body silicone) , then we take the jaw relation and then teeth set up ,we set the teeth

- up to now these steps resemble the complete denture and easier because we do it for single arch now we did the upper as complete denture you have to make the decision about the occlusal plane , in this case for example we can do selective grinding we want to make it as even as possible to avoid interferences.

so only when you have the teeth set up and on the articulator you can make the decision , always remember it is easier to adjust the acrylic teeth so if you have slightly compromised occlusion we try to accept , but if you have to do some changes on the natural teeth you first do it on the cast and then try to duplicate these changes in the mouth (natural teeth), we check it on the cast then we make it on the patient mouth , we don't do it directly on the patient mouth.

so this case was single denture opposing natural teeth.

- another case single denture VS fixed

The doctor showed a case and ask what are the options to modify this tooth ? enameloplasty or we can think of crown, or try to make some teeth up and some down ,we can fix it with onlay or composite according to the case , now the occlusal table look more even after making modification , we do rests seats, some patient refuse the idea of trimming from their teeth so we have to respect the request of the patient , so we can do composite restoration then prepare the rest seat on it.

-the doctor showed case for completely edentulous upper except of the 8's and lower that will need Bridge , we have to choose we either extract the 8's or we do over denture , we can see t teeth wear , the shape of it indicate it is erosion because we see pitting and the wear present on area that is not a part of the occlusion so it is not attrition .

Note : always when someone ask you about teeth wear protect yourself and say it is multifactorial , and then say the most prominent factor.

- so the treatment of this case : first we have to determine the cause of erosion to stop it we give him splint or we refer him to a general practitioner

we do crown lengthening for the patient we can do implant but the patient can't afford or we can put a resin bonded bridge but it is not good idea

so we decide to make a bridge , so the same thing we take primary impression ,border molding and secondary impression then we take the jaw relation with face bow now we have to visualize the end result before , we make wax up this is how we treat fixed against removable , that's why we have to make good treatment plane before start working

- as you can see , we put posts, E- max onlay , gold onlay on posterior teeth and composite restorations on ant teeth , now we take impression for the lower , now we achieve the same level of the previous case , so we treat the lower as edentulous teeth , this is the way we treat fixed against removable

-we do in complete dentures bilateral balanced occlusion but we can't achieve this because one is removable and the other is fixed so we just have to make sure to put the patient in occlusion in the centric relation

-now we almost finished all the cases, always remember that you have to think of implants in some cases.

**Done By : Hala Najjar**