

Surveying of Local Factors in Edentulous Iraqi Population

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ABSTRACT :

Introduction : The diagnosis and prognosis for complete denture are influenced by many factors .Local factors could play a significant role in this aspect .These factors could be variable from race to race .Accordingly the researcher decided to carry out a survey on Iraqi patients to find out the distribution of these factors among Iraqi population and to figure out if there was any inter relationship between them .

Materials and Methods : A sample of 200 Iraqi edentulous patients was selected randomly (male and female). The range of the age was 40-80 years old .the evaluation of local factors were decided by visual and digital examination. These factors were face form ,ridge form ,size of the ridge antero-posterior position of the tongue ,depth of the palate ,ridge relationship .

Results : regarding face –form relation ,both ovoid and square face-form constituted 32% of each of them whereas other classes showed lesser percentages . Regarding the interrelationship between tongue size and antero-posterior position of the tongue, there is (to some extent) a relation between the size of the tongue and the antero- posterior position of the tongue.The percentage of medium size tongue agreed with that of the retruded tongue, whereas the small size tongue corresponded to the protruded tongue. Regarding depth of the palatal vault and size of the tongue, there is (to some extent) a correlation between them, medium palatal vault correspond with the medium size tongue.

Conclusion : It was concluded that most of the corresponded local factors played a role in diagnosis and prognosis of the Iraqi edentulous patients and there was inter-relationship among these local factors which had an effect on diagnosis and prognosis of edentulous patients .

Keywords : local factors, palatal vault, ridge relationship ,tongue size .

INTRODUCTION :

The diagnosis and prognosis for complete denture are influenced by many factors. These factors implicate extra-oral and intra-oral factors. As a general term these factors are considered as local factors .Local factors could play a significant role in assessment of the prognosis of complete denture. These factors could be variable from race to race and could have inter-relationship among each other. These factors could include face form, ridge form, size of the ridge ,antero-posterior position of the tongue ,depth of the palatal vault and ridge relationship .Accordingly ,a survey is decided to be carried out on Iraqi patients to find out the distribution of these factors among Iraqi population and to figure out if there is any inter relationship between them .

MATERIALS

A sample of 200 edentulous patients selected randomly male and female, age 40 – 80 years to find out the percentage and if there was any inter-relationship between the following data of Iraqi population:-

- 1.Face form.
- 2.Ridge form.
- 3.Size of the ridge.
- 4.Antero – posterior position of the tongue.
- 5.Depth of the palatal vault.
- 6.Ridge relationship.
- 7.Any inter-relationship between the above-mentioned classes.

METHODS

visual and digital examination

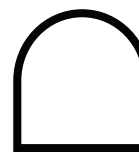
Face – Form

The frontal view of the face is considered as a basis to determine the face form. The face from is classified into the following classes:

- a.Ovoid form: - which is characterized by curved feature of the frontal view of the face. Fig.1



Figure 1



Inverted maxillary central incisor

- b.Square form:- which is characterized by comparing the distance between the width of the forehead and that between the angle of the mandible they should be more or less have the same dimension. Fig.2



Figure 2



Inverted maxillary central incisor

- c.Tapering form :- which is characterized by narrowing towards the chin.Fig.3



Figure 3



Inverted maxillary central Incisor

d. Combination of the above-mentioned classes of face e.g. Square – tapering, square – ovoid... etc.

Ridge Form or Ridge Shape (2, 7, 8,9,10)

It means the cross section of the ridge in any part of it. The ridge form has certain effect on stability of the denture it may differ in different parts of the ridge e.g. It may be square in the anterior region and tapering in the posterior part, rarely the whole ridge has the same configuration. Generally speaking ridge shape is classified into the following classes: - (1, 4, 5)

a. Ovoid or rounded :



Figure 4

b. Square:



Figure 5

c. Tapering:



Figure 6

Size of the ridge

The size of the ridge means bulk of the ridge (3,10). The greater the bulk or foundation, the better is the retention of the denture. Denture retention demands maximum coverage and maximum extension within the limit of health and function.

Size of the tongue (1, 4, 7, 8)

The space in the oral cavity determines the size of the tongue.

Size of the tongue can be classified as follows:-

- a. Medium: - the lateral convexity of the tongue just touching the lingual sides of the mandible.
- b. Large: - the lateral convexity of the tongue covers the apex of the residual mandibular ridge and touching the buccal mucosa of the cheek.
- c. Small: - there is little space between the lateral convexity of the sides of the tongue and the lingual surface of the residual mandibular ridge.

Antero – posterior position of the tongue

It can be detected when the patient opens the mouth, the antero-posterior position of the tongue will take one of the following:-

- a. Retruded position: - the tongue is pulled backward.
- b. Protruded position: - the tongue is thrust forward.
- c. Medium position: - which means the lateral convexity and the tip of the tongue are just touching the lingual and anterior sides of the mandibular

residual alveolar ridge.

Depth of palatal vault(1, 2, 4, 6)

Depth of palatal vault, sometimes called shape of the palatal vault, it have considerable effect on stability of the upper denture. It can be classified into three classes as follow:-

a. Shallow: - which means not deep; in other wards the depth of the hard palate is little.



Figure 7 Shallow depth of the hard palate

b. Deep:- sometimes called (v) shape hard palate

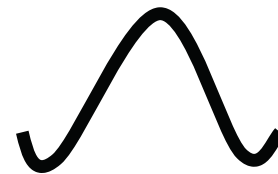


Figure 8 Deep hard palate

c. Medium :-



Figure 9 Medium depth hard palate

Ridge relationship (1, 2)

There are centric and eccentric jaw relationships. This study was concerned only with centric jaw – relationship.

This relation can be classified into three classes as follow:-

a. Class I:- in which the most anterior point of the upper jaw is located on the same alignment with the most anterior point of the lower jaw or slightly anterior to it, about(2)mm Fig.10

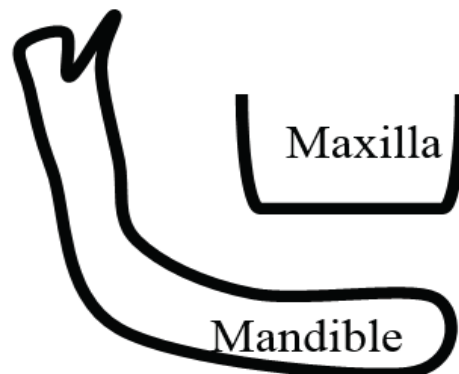


Figure 10 Class I jaw – relationship

b. Class II:- in which the most anterior point of the mandible is retruded more than (2)mm from that of the maxilla Fig.11

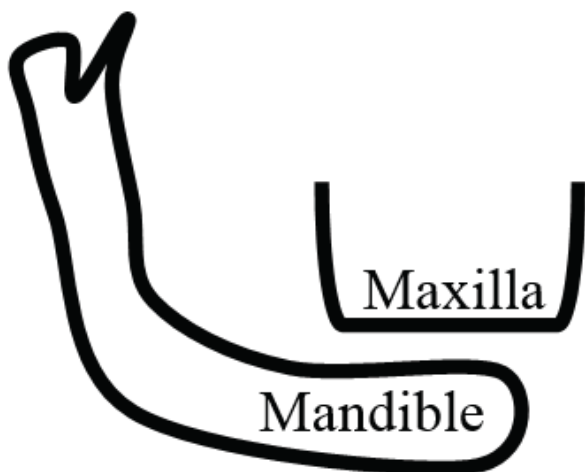


Figure 11 Class II jaw – relation

is anterior to the maxilla Fig.12

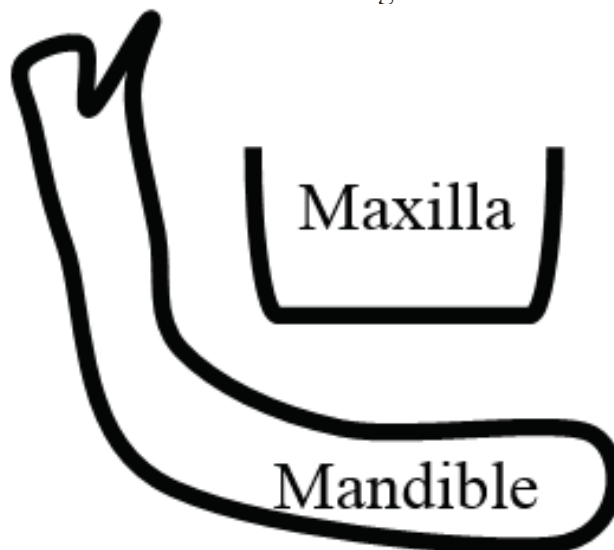


Figure 12 Class III jaw – relation

c. Class III:-in which the most anterior point of the mandible is protruded in other words the mandible

RESULTS

The following table shows the number and percentage of each group. Table number 1

Table no.1

<i>Face form</i>	<u>Ovoid</u> 64 32%	<u>Square</u> 64 32%	<u>Tapering</u> 20 10%	<u>Square – tapering</u> 30 15%	<u>Square – ovoid</u> 22 11%
<i>Ridge form</i>	<u>Ovoid</u> 80 40%	<u>Square</u> 62 31%	<u>Tapering</u> 58 29%		
<i>Size of the tongue</i>	<u>Medium</u> 107 53.5%	<u>Large</u> 56 28%	<u>Small</u> 37 18.5%		
<i>Antero – posterior position of the tongue</i>	<u>Medium</u> 63 31.5%	<u>Retruded</u> 80 40%	<u>Protruded</u> 57 28.5%		
<i>Depth of the palatal vault</i>	<u>Shallow</u> 21 10.5%	<u>Deep</u> 48 24%	<u>Medium</u> 131 65.5%		
<i>Ridge – relation ship</i>	<u>Class I</u> 111 55.5%	<u>Class II</u> 20 10%	<u>Class III</u> 69 34.5%		

One of the purposes of this study was to find out whether there is relationship between the data of the survey. The data which were relatively unstable were excluded e.g. ridge form because it was changeable due to bone resorption. Ridge relationship (centric jaw relation) though it is fixed antero-posterior bone-to-bone relation, but it is not

considered reliable in this study, because the pattern of bone resorption of the upper jaw was different from that of the lower jaw which led to alteration in the shape of both upper and lower jaw. The other data which was face form, size of the tongue, antero-posterior position of tongue and depth of the palatal vault were relatively stable.

Table no.2

<i>Face form</i>	<u>Ovoid</u> 64 32%	<u>Square</u> 64 32%	<u>Tapering</u> 20 10%	<u>Square – tapering</u> 30 15%	<u>Square – ovoid</u> 22 11%
<i>Size of the tongue</i>	<u>Medium</u> 107 53.5%	<u>Large</u> 56 28%	<u>Small</u> 37 18.5%		
<i>Antero – posterior position of the tongue</i>	<u>Medium</u> 63 31.5%	<u>Retruded</u> 80 40%	<u>Protruded</u> 57 28.5%		
<i>Depth of the palatal vault</i>	<u>Shallow</u> 21 10.5%	<u>Deep</u> 48 24%	<u>Medium</u> 131 65.5%		

DISCUSSION

Face form can be used as a guide for selecting the form of upper central incisor, because the frontal view of the inverted maxillary central incisor should conform to the frontal view of the face. Face form was relatively stable. Ovoid and square face forms were predominant and each of them constituted 32% of the sample which means both ovoid and square face form constitute 64% of the Iraqi population, whereas the other classes (tapering, square – tapering, square ovoid) constitute only 36% regarding the size of the tongue the medium class represent the high percentage 53.5% whereas the lower percentage was the class of small tongue 18.5%.

Regarding the antero posterior position of the tongue, protruded was representing 28.5% whereas the class of retruded tongue was representing the higher percentage 40%.

Regarding the depth of palatal vault, the medium was representing the high percentage 65.5% whereas the lower percentage was the shallow 10.5%.

To consider, whether there is any correlation between any one of the classes, it seems logical to compare the classes which have similarity like size of the tongue and antero posterior position of the tongue. It seems that there is (to some extent) inter relationship between the size of the tongue and antero posterior position of the tongue because small tongue and protruded tongue both of them

have the lower percentage, whereas medium size tongue and large tongue correlate with retruded tongue according to the percentages of this study.

Regarding the depth of the palatal vault and size of tongue, there was correlation between them, because the palatal vault of medium depth and the tongue of the medium size both of them showed high percentage, whereas the small tongue and shallow palatal vault showed a lower percentage.

SUMMARY

Survey of some of the local factors used for the diagnosis and prognosis of the complete denture patients was made on a sample of (200) patients, male and female, aged (40 – 80) selected randomly. The purpose of this survey was to show the distribution of these factors among Iraqi population and to find out if there was any inter-relationship between them.

CONCLUSION

- 1.Regarding the percentage of face form both ovoid and square face form constituted 32% of each of them, whereas the other classes showed lesser percentage.
- 2.Regarding the inter-relationship between tongue size and antero-posterior position of the tongue, there was (to some extent) relation between size of the tongue and antero-posterior position of the tongue, the percentage of medium size tongue agreed with that of the retruded tongue, whereas the small size tongue corresponded to

the protruded tongue.

3. Regarding depth of the palatal vault and size of the tongue there was (to some extent) correlation between them, medium palatal vault corresponded with the medium size tongue.

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