

CASE REPORT

RULE THE RUGAE: A CASE REPORT

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ABSTRACT

Palatal rugae is one of the most felt part of oral cavity realised by the patients tongue giving him/her a natural feeling. The conventional dentures fail to replicate this feature in the maxillary dentures. This case report discusses a new customised technique of replication of palatal rugae in the maxillary complete denture prosthesis with silicone putty index and wax up. This provides a patient a more life-like simulation of the prosthesis and its better psychological adaptability.

Keywords: Rugae, Plica, Denture, Putty, Silicone, Customisation, Characterisation

INTRODUCTION:

Human anatomy is the most varied form of God's very own creation. Amongst which the oral cavity is an entire world in itself. Palatal rugae, also known as the plicae palatinae transversae and rugae palatina, refer to the ridges on the anterior part of the palatal mucosa, each side of the median palatal raphe and behind the incisive papilla.^{1,2} Palatine rugae are basically elevations of the mucous membrane & help in gripping the food before tearing it in animals. In humans, however their role has been arbitrarily attributed to functions like mastication and swallowing, phonetics, suction and more recently forensic dentistry.³⁻⁶

In the field of prosthodontics, one can simulate and replace any morphology, be it the missing eyes, ears and or even characterised dentures where the natural anatomy of patients rugae can be

replicated in his complete denture prosthesis.

Characterising a complete denture prosthesis can vary from providing a cheek plumpers in hollowed out cheeks, gingival recontouring and staining, characterising the natural teeth anatomy of the patients and even replicating his/her dental anomalies to the characterisation of a denture with rugae replications.

In this article a case report has been discussed which discusses a new technique of rugae replication through a putty index and waxup.

CASE REPORT:

An elderly male patient, aged 65 years and working as a farmer reported to the department of Prosthodontics & Crown & Bridges, Institute of Dental Studies and Technologies, Modinagar with a chief

complaint in eating food due to loss of all natural teeth in the past one year. Medical history was noncontributory and dental history disclosed a loss of natural teeth due to mobility and decay. Patients' expectations were realistic and related to masticatory function. The patient had no adverse habit of any tobacco or related products. Extra oral examination revealed a bilaterally symmetrical face with a decreased vertical dimension of the face in the lower third region. Intra oral examination showed well-formed maxillary and mandibular residual alveolar ridges with prominent palatine rugae and hard tissue undercuts in the maxillary labial area of the ridge.

After thorough examination and planning definitive treatment plan for this patient was formulated that included fabrication of two separate complete dentures with bilateral balanced occlusion, one was not characterized (mandibular) and the other was characterised (maxillary).

The maxillary master cast was obtained after border molding and final impression. The markings were made on the maxillary cast of the working area to be replicated. **(Figure 1)**



Figure 1: The markings made of rugae on the maxillary cast

Now half scoop of base and catalyst of putty silicone elastomeric impression material (Reprosil, Dentsply/Caulk; Milford, DE, USA) was taken. It was hand manipulated and mixed. After that it was adapted onto the palatal vault to duplicate the rug pattern that was outlined on the impression with a lead pencil. **(Figure 2)**

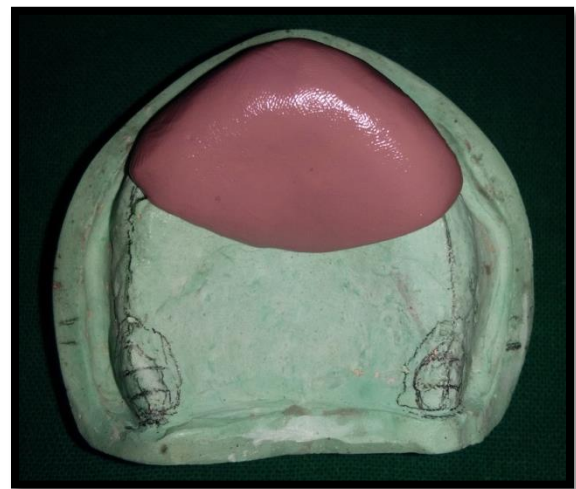


Figure 2: Putty index made and adapted on the rugae

After adapting, the intaglio view of the impression of rugae in the putty index was verified for any discrepancy. **(Figure 3)**



Figure 3: Intaglio view of the impression of rugae in the putty index

On the other hand, a complete teeth trial was done and obtained. (Figure 4) This procedure was followed by trimming away that amount of rugae from the denture base as were the dimension of putty obtained. Molten wax was poured onto this region and the putty index was adapted and pressed against the resistance.(Figure 5) This lead to the transference of rugae onto the wax-up. (Figure 6)



Figure 4: Complete teeth trial done

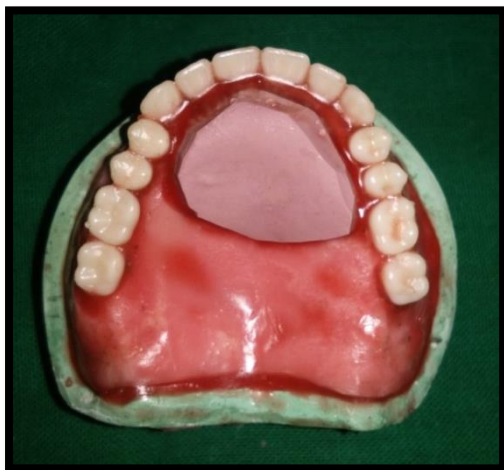


Figure 5: Adaptation of putty index on the rugae cut-section with wax-up



Figure 6: Final wax-up of the patients' rugae

Trial closure was done after dewaxing and packing of heat cure acrylic in hanau flask. (Figure 7)



Figure 7: Trial closure

After curing cycle was completed, finishing and polishing was done and the patients' denture was delivered. (Figure 8)



Figure 8: Final characterised prosthesis

The patient was very satisfied with characterised complete denture and was given the required post insertion instructions for the same.

CONCLUSION:

Within the limit and scope of this study, it can be concluded that role of palatine

rugae in the patient satisfaction with the complete denture prosthesis is mostly preferred. As for any complete denture prosthesis, the rugae should be always incorporated in the denture without increasing the thickness of the denture in that region. Patient satisfaction should be the ultimate goal of any dental treatment.

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