

Flexible Solutions for Rigid Problems : A Case Report

A Case Report of A Patient With Maxillectomy Rehabilitated With Valplast Obturator

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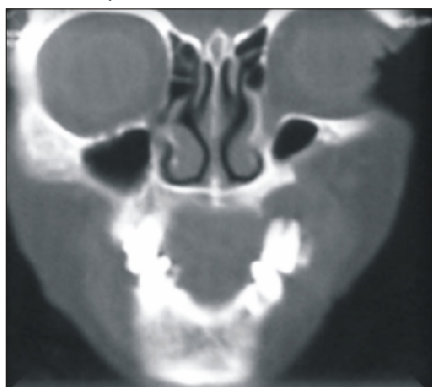
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Abstract

Lerman, Hulicka and Mehringer aptly mentioned that organic insult, loss of function, and grotesque appearance, which may occur frequently, can have serious, harmful effects on the total adjustment of the patient to his life situation. This clinical case demonstrates the use of a flexible obturator in rehabilitating a lady with maxillectomy due to mucoepidermoid carcinoma. The flexible obturator engages well in the under cut areas and provides an easy path of insertion.



Pre Operative Extra Oral & Intra Oral View



CT Scan Showing Obliteration of Left Maxillary Sinus with Involvement of Infra-orbital Margin Without the Infra-orbital Rim

A lady named Saroja, came to the department of prosthodontics complaining of pain in the left maxillary region and swelling also. Patient was a Chronic Tobacco chewer and beetle nut user. The clinical examination revealed pain, swelling and abnormal growth which has increased in past one month. CT scan showed the obliteration of the left maxillary sinus and involvement of the infra orbital margin, excluding infraorbital rim. The patient complained of regular pain while eating and swelling, the growth was around 8cm to the mid palatine raphe.

Biopsy confirmed the clinical finding and the radio-diagnosis as mucoepidermoid carcinoma. Surgical resection of the prepared site was planned and partial-maxillectomy was done. The margins were properly located and surgery was planned.

A preoperative cast of the patient was made and an acrylic template was prepared to place in the surgical site. This template was



kept in formaldehyde for 24 hours before it was placed in the surgical site.

Extra Oral and Intra Oral View of Partial Maxillectomy Patient

The patient was followed up post-surgically, and after a period of one month after complete. Facial asymmetry was found and a drastic change in the voice resonance was observed, but the patient complained of burping food and difficulty to eat.



Alginate impression was made for the maxillary arch with palatal defect and the mandibular arch. Alginate was selected as the choice of material because of its elasticity and ease to recover from the undercut areas.



Primary cast prepared for the construction of custom tray



A special tray was designed and peripheral tracing was done with extraheavy putty silicone

Impression material and secondary impression was made with polyether as it is rigid and shows the reliable amount of dimensional stability. The master cast was prepared with die stone.



Jaw relation seen and articulated.



After healing it was found that the patient has lost her original centric relation, which was reestablished by recording the jaw relation. The original centric relation was lost due to the loss of posterior teeth and due to scar tissue formation.

Any type of teeth, porcelain or acrylic could have been used. The retention will be mechanical with the help of diatonic holes. Twist drills are used to prepare the necessary diatonic holes in the teeth. This can be done during try-in procedure.



Wax Trial Seen

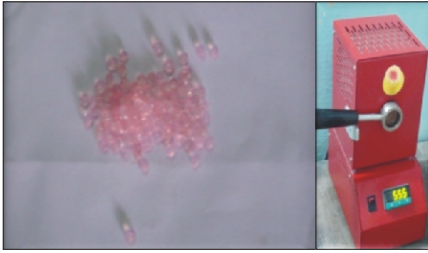


In wax trial the major criteria was to check the lost centric relation, and to reestablish the vertical dimension. Apart from that patient's esthetics and speech was also improved.

Valplast Material

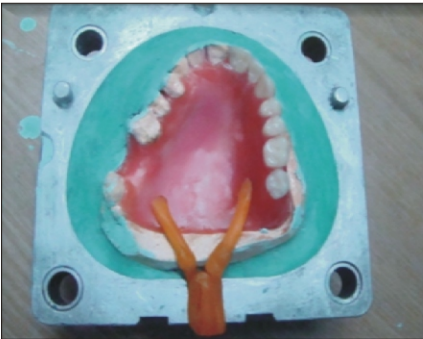
The resin is a biocompatible nylon thermoplastic with unique physical and

aesthetic properties⁶. This material due to its elasticity can engage better in the undercut areas and provide retention and reduces tissue irritation which was a major disadvantage of metal direct retainers.⁶



Valplast furnace. (Three major steps to use the valplast system)

- Investing
- Spruing
- Boiling out



In the valplast injection molding system, the master cast with the wax trial denture was invested with dental stone in the injection moulding flask. Y shaped sprue was made from the palatal side, which was designed to inject the molten valplast into the mold.⁵

Melting and Injection Procedure



The flasks were compressed tightly under vacuum pressure and the molten sprue was removed through the channels. Now the channels are ready to force the molten valplast into the flask after the dewaxing procedure.

Pre-polishing

Smooth the entire surface of the valplast obturator, with the brown rubber wheel before polishing. Once the surface is rubberized and smooth the case is ready for polishing.

Polishing

The materials used for polishing valplast are Rag wheels, Extra-coarse pumice, Brown Tripoli compound.



Post Insertion Pictures

The direct retainer of the valplast obturator engages itself below the undercut area.

Conclusion

The psychological trauma, functional imbalance and lost esthetics due to any kind



of maxillofacial assault should be dealt properly with coordinated team work and proper material for rehabilitation. In this particular case the patient's speech was also reestablished. Proper and regular follow up for the patient is mandatory with maintenance of oral hygiene for which, patient should be properly motivated. Beside all, the most important part of the treatment plan is to boost the patient morally and psychologically.

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