

PROSTHETIC MANAGEMENT OF AN EPILEPTIC PATIENT

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ABSTRACT

This case report illustrates the problems of tooth loss in an epileptic patient. The patient presented with a broken denture following a seizure. She gave a history of breaking and swallowing her dentures during seizures. Before presentation she had worn five upper removable partial dentures.

An upper removable partial denture with increased thickness of the acrylic palatal was fabricated and fitted satisfactorily. The patient was taught how to insert and remove the prosthesis as quickly as possible. Epileptic patients can use dentures but run the risk of frequently breaking and swallowing them during seizures. The risk can be reduced if patients and relatives are taught how to remove the dentures prior to or during seizures.

Keywords: Epilepsy, Prosthetic management

INTRODUCTION

Epilepsy is common neurological condition in Nigeria with a reported prevalence ranging from 6 per 1000 in an Urban area¹ and 37 per 1000 in rural areas². Partial epilepsy is commoner than general epilepsy³. Most epileptic patients have convulsive seizures constituting 68.4% of patients⁴.

During convulsive seizures an epileptic patient may fall without notice and may sustain injuries including fractures or loss of teeth. During the seizures, a number of people in Nigeria (including health workers) may insert a spoon, spatula or any object between teeth ostensibly to prevent biting the tongue. Such objects may contribute to fracture or loss of teeth especially the upper central incisor⁵.

Epileptic patients on treatment with phenytoin especially those with poor oral hygiene may have gingival hyperplasia⁶.

The aims of this paper are to illustrate: The essential steps that need to be taken prior to tooth replacement in such a patient and the problems associated with tooth replacement with a removable partial denture in an epileptic patient.

CASE REPORT

E.M. is a 35 year old single lady who resides with her parents. She came unaccompanied to the prosthetic out – patient requesting for a replacement for her broken upper denture which occurred during an epileptic seizure. She claimed to have swallowed her dentures a number of times after breaking them during

seizures. She had worn five previous dentures; the present denture was fabricated five months prior to presentation at the clinic

Patient has a long –standing history of tonic – clonic seizures which started at the age of 11. Her seizures occurred without any aura and were associated with injuries, biting of the tongue and incontinence of urine. Initially the patient had seizures with a frequency of 6 per month. She was treated with carbamazepine which reduced the frequency to 3 times a year. Seizures were precipitated by anger or emotional stress. She had been on and off antiepileptic drugs a number of times. She dropped out of school in junior secondary school as a result of epilepsy and is currently unemployed.

Extra orally, there were scarification marks on the bridge of the nose, inferior to the left eye and over the zygomatic region on the left. Intra orally the oral mucosa appeared clinically healthy, there was gingival swelling and oral hygiene was good. All the teeth were present except the incisors 12, 11, 21, 22⁷. Periapical radiographs of the saddle area did not reveal any soft or bony tissue pathology.

After the neurological assessment at the medical out – patient, which did not reveal any focal neurological signs, prosthetic treatment was commenced. Upper and lower alginate impressions were taken for the fabrication of a simple acrylic upper removable partial denture. The patient had an epileptic fit in the surgery which lasted for about 30 minutes.

The denture was fitted satisfactorily and the patient was taught how to insert and remove the

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prosthesis as possible. She was advised to practice this to increase her dexterity in case she has a premonition of a seizure. Instructions were also giving on how to take care of her teeth and dentures. At recall visit 3 months after, the denture had broken into two pieces. Thorough examination revealed that there was an appreciable reduction in inter – incisal distance, which limited the thickness of the denture base. The incisal edges of the lower incisors 42,41,31,32⁷ were trimmed to create more inter- incisal distance. The denture was repaired using cold- curing acrylic resin, (fig 2). Patient has since been recalled at 3 months, 6 months and 1 year has been no recurrent fracture of the denture



Fig 1a show the anterior saddle area with a firm overlying mucosa and adequate ridge height

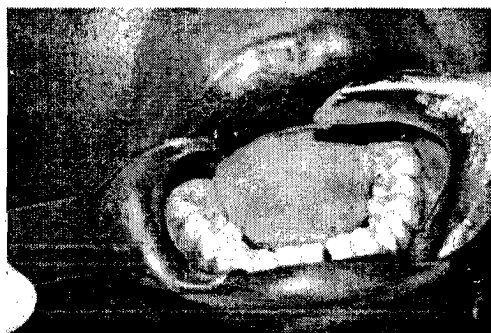


Fig. 1b fully dentate lower arch with no clinically obvious gingival hyperplasia..

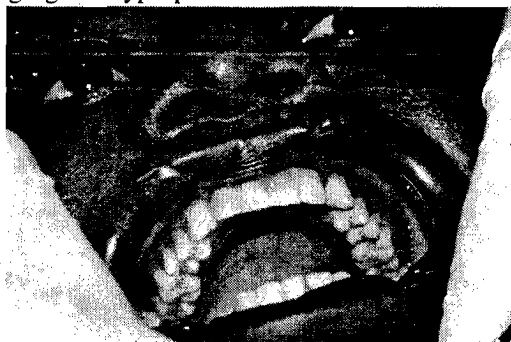


Fig. 2- repeat URPD replacing 12, 11, 21, 2 after the lower 42, 41, 31, 32 had been trimmed to increase inter- incisal distance.

DISCUSSION

The treatment of an epileptic patient can be done a removable or fixed prosthesis. The patient must however be advised about the danger of inhalation or swallowing of the denture a seizure⁸. For this patient who is partially edentulous; the ideal treatment option is a fixed prosthesis. This can be in the form of bridges or implants. However, a removal partial denture was constructed for this patient because it is much cheaper compared to the cost of a bridge or an implant. The cost of a removable partial denture is less than 1.0% of the cost of a bridge and 0.1% of the cost of an implant.

As it occurred with our patient, a seizure may occur during dental treatment, therefore before the clinician commences the treatment of an epileptic patient, he/she must be equipped with the knowledge of immediate management of patients of may sleep. Our patient slept for about one hour. But patients may sleep for a varied length of time, so treatment must be postponed to allow patients to rest or sleep in the clinic observation room till they fully recover. For the partial denture design, good retention, stability, adequate support, comfortability and aesthetics must be ensured which provided the ideal tissue support need for the denture. Retention of the acrylic denture was achieved by incorporation of a labial flange, which prevents anterior – posterior displacement of the prosthesis and by making the acrylic denture base to contact the palatal gingival margins of the adjacent teeth to the saddle area

Palatal coverage was to the region of 15, 25. This also provided stability and aesthetics. Teeth selected for size shade and mould correlated with the characteristics of the adjacent and lower naturally standing teeth for this patient the incessant fracture could be attributed to a thin acrylic denture base. The ideal denture base when there is a reduction in the inter – incisal distance is a metallic denture base, for example cast cobalt – chromium which is highly rigid in thin sections⁹. Due to the possibility of swallowing the denture, the acrylic denture base should be impregnated with a radio- opaque material so that if it swallowed or inhaled during a seizure it can be located with a chest X -ray¹⁰. Radio – opaque denture base acrylic resin are not available in Nigeria.

Epileptic patients may wear a removable partial denture. They should however advise on the safest and suitable treatment obtainable. They should be left to make their decisions which should be respected. Epilepsy should not be a barrier to obtaining prosthetic treatment. Regular visits are essential to check that the denture is retentive, stable and that the mucosa and adjacent standing teeth are healthy

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