

## MODIFIED ANDREW'S BRIDGE -A CASE REPORT

Parvez Abubakkar\*\*, Sharanbasappa C Nagral\*, Asad Mehmood\*\*\*, Nagaprasad. M. Naik\*\*\*, Pavan Kumar\*\*, Tanveer Fatima\*\*

Department of Prosthodontics, Al Badar Rural Dental College, Kalaburagi, Karnataka

### Introduction:

The art and science of Prosthodontics involves the replacement by artificial substitutes, the main goal is to restore the function, esthetics and comfort of the patient<sup>1</sup>. The prostheses which are fixed or removable given according to the clinical situation can provide an exceptional satisfaction to the patient. Having said this the choice of giving a prosthesis to the patient depends upon the correct diagnosis and proper treatment plan.<sup>1</sup> Decisions concerning the type of the restoration involve many factors - caries, existing restorations, tooth vitality, shape, angulation, oral hygiene, cost, and experience. The congenital absence of a tooth or the extraction of a tooth is associated with the progressive reduction of the surrounding volume of hard and soft tissues. Loss of such tissues is even more pronounced in situations of trauma, cleft lip & palate, and after the surgical excision of pathoses.<sup>2</sup>

The traditional management of such patients i.e. where radical surgical excision

has been done requires the use of partial removable dental prostheses to replace the missing dentition and associated structures.<sup>2</sup>

This can be associated with problems of patient adaptability, retention, and stability. Esthetic replacement is difficult when there is radical surgical excision of the pathology. One choice to manage this situation is to give a fixed removable type of prosthesis i.e. is the "ANDREW'S BRIDGE".

### Case Report:

A 20 year old male patient reported to the Department of Prosthodontics Crown Bridge & Implantology at Al Badar Rural Dental College and Hospital who was treated for ameloblastoma in the left quadrant of mandible

The Patient's chief complaint was inability to chew from the treated site. Patient's medical history was good as he had no known allergies. Patient's clinical and radiographic findings showed loss of teeth in left quadrant from lateral incisor till 1<sup>st</sup> molar and 2<sup>nd</sup> molar was mesially tilted with a defect which extended almost to the floor



Fig. 1



Fig. 2

of the mouth (fig 1, 2). The radiographic finding also showed a Recon Bone plating in the area of the defect (fig 3). Due to vertical

loss of the bone and proximity to inferior alveolar nerve, dental implants were ruled out (fig 3).



**Fig. 3**

A conventional FPD was also not planned for this patient as it would be resulting in a long span bridge. Discarding all the above options it was decided to give Andrews Bridge as it would provide good aesthetics, phonetics and access to the pontic area owing to the removable component thus providing a cleansable area to maintain a proper oral hygiene.

Diagnostic impressions were made of both the arches using irreversible hydrocolloid. As the lower left 2<sup>nd</sup> molar had shown mesial tilting an intentional RCT was performed. Mandibular Right central and lateral incisor and mandibular left central incisor and mandibular left 2<sup>nd</sup> molar were selected as abutments. A Porcelain fused to metal prosthesis was chosen for the abutment teeth.

Tooth preparation were done giving a shoulder margin on the buccal aspect and a



**Fig. 4**

chamfer margin on the lingual aspect. Before making a final impression the gingiva was retracted using MAGIC FOAM (fig 4) (as magic foam is easy to use, patient comfort and retraction is better than conventional method) and the final impression



was made using Polyvinyl Siloxane impression material

**Fig. 5**

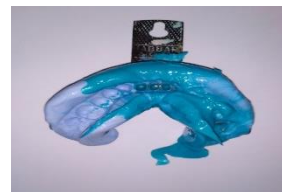
(fig 5) and bite registration was recorded. The metal frame work was fabricated in cobalt chromium alloy with custom ball and socket attachment.

The framework was evaluated for the fit intraorally and the occlusal registration was



**Fig 6**

made (fig 6). After the evaluation of fit, a pick up impression was made using Polyvinyl Siloxane (fig 7) and a PFM prosthesis was



**Fig. 7**



**Fig. 8**

made (fig 8) followed by denture processing with the Nylon Cap housing to engage the Ball attachments which were made on the framework (fig 9, 10).



**Fig. 9**



**Fig. 10**

The metal framework was luted with Glass



**Fig. 11**

Ionomer type 1 cement following manufacturer's instructions (fig 11). The Denture was evaluated and occlusal adjustments were made.

Oral hygiene instruction were given to the patient and demonstration was also provided including the use of Mouth wash and interproximal brush.

Upon review the oral hygiene was satisfactory and the patient no longer had problem to masticate food at the affected site.

#### **Discussion:**

Ameloblastoma is a rare benign tumour of odontogenic epithelium and is invasive in nature, most commonly occurring in the posterior ramus area of mandible and rarely occurs in maxilla. Due to its slow invasive nature it is asymptomatic in nature unless the swelling attains considerable size.

As mentioned earlier an implant retained FPD was not possible due to the vertical loss of bone height and close proximity to inferior alveolar nerve, Andrews Bridge was selected as it is inexpensive and is designed to meet this particular situation easily. Due to its removable component maintaining oral hygiene in the affected area is possible and there are less chances of food entrapment.

**Conclusion:**

The treatment was completed with a modified Andrew's bridge (here instead of a simple bar with removable component we gave a ball and socket attachment). Considering the clinical situation a minimally invasive prosthesis was given which was easy to maintain and acceptable to the patient. Andrew's bridge is a simple economically viable and patient friendly option when other treatment modalities like FPD's and surgical procedure are not suitable.

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**\*Prof and HOD,  
Department of Prosthodontics,  
Al Badar Rural Dental College, Kalaburagi**

**\*\* Reader  
Department of Prosthodontics,  
Al Badar Rural Dental College, Kalaburagi**

**\*\*\*PG student  
Department of Prosthodontics,  
Al Badar Rural Dental College, Kalaburagi**