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Masking the Drawbacks of Surgical Closure of Failed Oroantral Fistula Correction with a Partial Denture Prosthesis

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ABSTRACT

Proximity of maxillary sinus with the maxillary posterior teeth makes it vulnerable to be exposed during difficult extractions. When the sinus is exposed during extraction it is usually closed by surgery. Many times these closures are not either complete or fail to close because of patient related factors. Therefore it becomes significant for surgeon to follow strict protocol of following up such patients. This article describes a case where the same was not done properly and has forensic applications. The fistula present in this case is small which was not observed by examiners at three different levels before being finally diagnosed. The article also reiterates the significance of doing complete examination in such cases. The patient was successfully rehabilitated using a modified partial denture.

Keywords- maxillary antrum, maxillary molar, obturator, surgical extraction

INTRODUCTION

Oro antral communications (OAC) as the name suggests is an open connection between the oral cavity and maxillary sinus (Highmore's antrum).

Amongst the sinuses present in the region, the maxillary sinus is closest to the oral cavity as it extends into the alveolar process bordering the apices of the posterior teeth. At birth the maxillary

sinus is a small cavity and its growth begins in the third month of fetal life and ends at the age of 20 years. Due to its small size in children and adolescents the risk of OAF is comparatively low.

^[1] The thinness of the antral floor in that region ranges from 1 to 7 mm.^[2] Although the incidence is relatively low (5%),^{[3],[4]}

Reports have shown that OAF commonly occurs after the third decade of life.^[5] It is more frequent in males^{[5],[6]} and occurs mostly in the second and first molars followed by second premolar teeth.^[6]^[7] Common causes of OAF are extraction of teeth, maxillary cysts, benign and malignant tumors and trauma.^{[8],[9]} Surgery in general is indicated if a fistula does not heal within 2 to 3 weeks.^{[6],[7]}

It is very rare that surgical correction has been thought to be done but due to lack of proper follow up the surgical closure has either failed or has not been complete. This article in the form of a clinical case report presents such a rare case. The objectives of this article are to focus the importance of proper intra oral examination, post-operative long term surgical follow up and management with a simple prosthesis.

CLINICAL CASE REPORT

An elderly geriatric patient aged 67 years was referred by department of oral medicine to department of prosthodontics for partial denture prosthesis in relation to maxillary partially edentulous arch. The patient was diagnosed in the undergraduate section of the department of prosthodontics and was referred to post graduate section, where a post graduate was allotted the case.

Medical, drug and social history were non - contributory. Extra oral examination revealed that the patient had a high lip line (smile line). Intra oral examination of the maxilla revealed a Kennedy class II situation that crossed the midline (Fig. 1). Intra oral examination revealed a dark shadow in the posterior buccal vestibule which was overlapped by soft tissues present in the region.

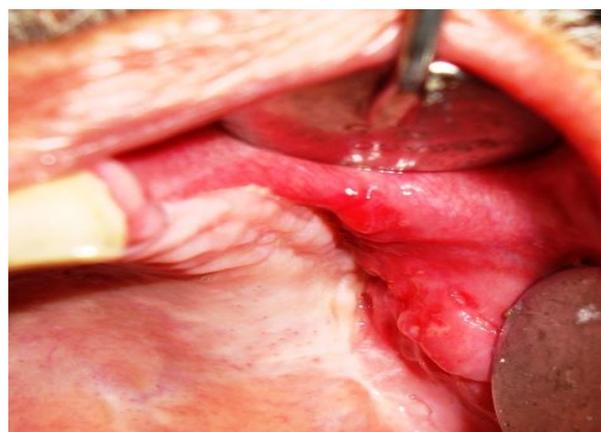


Figure 1: Intra oral view of obliterated vestibule and almost invisible fistula



Figure 2: Proper examination reveals the location and extent of oro-antral fistula

The vestibule in the region was obliterated and the ridge of the slope was almost flush with the vestibular depth (Fig.2). This finding was not

observed by three different examiners. Further history revealed history of stitches after extraction in the region about 7 years back. Probing determined that the finding was a fistula that remained after extraction was done in the past. The tissues around the area had healed completely and were asymptomatic except at times patient would feel bubbles appearing in the region.

Meanwhile a treatment plan was formulated after consultation with department of oral surgery and it was determined that no surgical intervention was necessary. The treatment was a modified treatment partial denture in that region followed by a definitive prosthesis in the form of a cast partial denture.

Meanwhile a treatment partial denture was fabricated with buccal flange extended in the region to close the fistula completely (Fig. 3). The problem of retention of prosthesis was overcome by incorporating three different clasps in the partial denture. The patient was happy with the outcome of the treatment and reported regularly on follow up (Fig.4).

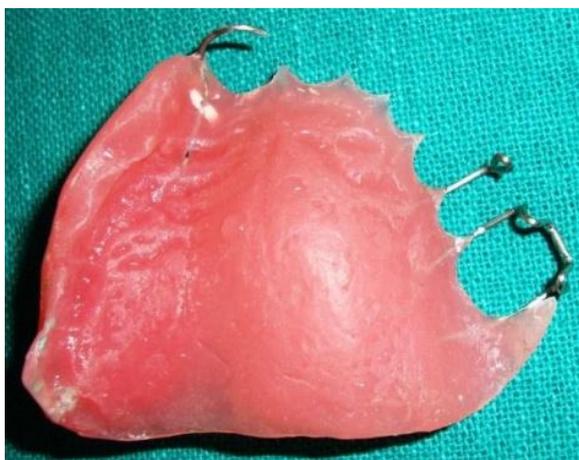


Figure 3: Modified partial denture with extended buccal flange

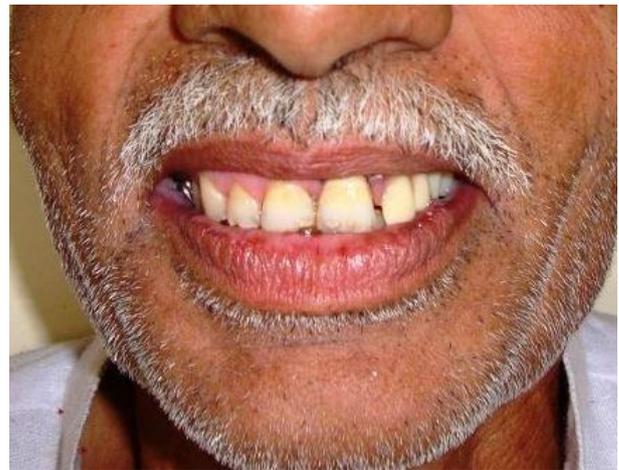


Figure 4: Modified partial denture in function

DISCUSSION

Besides masking the drawbacks of surgical closure, this article highlights two significant facts. The first one being improper surgical follow up by the surgeon as revealed by the patient and the second being inadequate clinical examination done by dental students. Every extraction that involves sutures should be carefully followed as in certain cases it has forensic applications also. With the advent of forensic sciences and consumer protection acts especially dental one needs to be more vigilant in post-operative care. The second significant fact about this case presentation is the unusual and inadequate clinical examination done by the dental students in both departments. Though it may be argued that the fistula was a small one, but it amounts to neglect and careless examination. Clinical examination of soft tissues should be done by reflecting the tissues away from the teeth or the ridge so that any hidden surface feature in the oral mucosa will be displayed.

CONCLUSION

Within the scope of this article it becomes evident that follow up after difficult surgery is mandatory to avoid embarrassment and forensic neglect. Clinical examination of any area should always be done carefully and closely with all the tissues reflected to avoid missing any clinical finding.

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