

# Marsupialization A Safe Treatment Modality For Treatment of Odontogenic Cysts in Mixed Dentition- A Case Report



## Medical Science

**KEYWORDS :** Marsupialization, Odontogenic cysts, Mixed dentition, Obturator

<b>DR.SANKAR VINOD V</b>	HOD, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
<b>DR.AABU VARGHESE</b>	PG- FINAL YEAR , DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE , KOTHAMANGALAM, KERALA 686691
<b>DR.ARUN GEORGE</b>	READER, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE , KOTHAMANGALAM, KERALA -686691
<b>DR.PAUL STEAPHEN</b>	PG, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
<b>DR.NINAN THOMAS</b>	READER, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691
<b>DR.KIRAN K.S</b>	PG, DEPT OF ORAL AND MAXILLOFACIAL SURGERY, MAR BASELIOS DENTAL COLLEGE, KOTHAMANGALAM, KERALA-686691

### ABSTRACT

*Marsupialisation is a very safe procedure for the treatment of odontogenic cysts in mixed dentition as it is less likely to produce injury to permanent tooth buds and limits the post operative morbidity to a large extend . all that is needed is adequate patient and parent cooperation and following proper post operative instructions . Here we present a case which was successfully treated with marsupialization through this minimalistic approach*

### INTRODUCTION

Marsupialization as the name means is a technique of creating the cystic cavity into a pouch which reduces the intra-cystic tension and resulting in the gradual lateralization or filling up of the cystic cavity thereby eliminating it. The technique is a very safe and simple procedure and is indicated in cystic lesions affecting mixed dentition .The only challenge is to maintain the opening of the marsupialized cystic cavity for the desired period of time . An obturator to maintain the integrity of the marsupialized cavity opening can achieve this and gradual reduction of the obturator as the cyst get filled up or lateralized. Here we present a case which was successfully treated with this technique preserving the integrity of the permanent tooth buds

### CASE REPORT

A 14-year-old male reported to our department with chief complaint of swelling in relation to lower left back tooth region. Clinical examination revealed bony swelling in relation to lower left posterior teeth region in the buccal aspect. . Diagnostic X rays IOPA and OPG were taken.



FIG-1

OPG (FIG-1) revealed a cystic lesion in relation to periapical region of deciduous teeth in relation to 74 and 75. The tooth buds of the teeth in relation to 34,35 were present beneath the cystic lesion. The primary motive for the treatment modality was to preserve the tooth bud integrity of

teeth in relation to 34 and 35.

### TREATMENT

The deciduous teeth in relation to 75 and 74 extracted. This exposed the cystic cavity (FIG-2)



FIG -2

Instead of suturing the cystic lining to the oral mucosa the cystic cavity is just packed with iodoform gauze for two days. Antibiotics and analgesics were prescribed for two days. After two days an obturator is given to maintain the mouth of the marsupialized cavity and to maintain the space.



FIG 3

The acrylic plug part of the obturator which is projecting into the cystic cavity is reduced in dimensions as the cystic cavity is filling up. The cystic cavity is completely obliterated in about three month treatment and patient was advised for timely follow up until the eruption of the teeth in relation to 34 and 35.

## DISCUSSION

Marsupialisation procedure involves removal of a generous amount of mucoperiosteum and bone overlying the cystic cavity, incising the cystic cavity lining and suturing the cystic cavity to the oral mucosa to prevent closure of the cystic lining and refilling of the cystic fluid. According to literature reviews marsupialization is indicated when cyst other than dentigerous cyst is found between the unerupted teeth and oral cavity and in cases where the development of the displaced teeth not completed and enucleation of the cyst can result in the damage of the developing tooth germ<sup>1,2</sup>. It is also indicated in cysts involving apices of many adjacent teeth and the enucleation could prejudice the vitality of the involved teeth<sup>2</sup> and also in cases where enucleation can result in a pathologic fracture<sup>3,4</sup>. The mechanism of success of marsupialization owes to the inherent tendency for cystic lining contraction once the intra cystic tension is released. This will result in the reversal of the bone resorption from the increasing intra cystic tension and will result in generation of the bone from the periphery of the cystic cavity resulting in filling up of the cavity. The marginal ingrowth of the mucoperiosteum also aid in the generation of bone. The advantages of the procedure are (1) Safe and simple procedure, (2) Avoids injury to vital structures.

However one of the major disadvantages of the modality is the need for patient compliance and co-operation. The Marsupialized cystic cavity need to be irrigated daily after meals to keep it clean. and the patient cooperation in wearing the obturator. Adequate follow up is a must for these patients. According to Pogrel et al<sup>5</sup> marsupialization requires a cooperative patient to irrigate the cavity to keep it open. They also mentioned about the replacement of cystic lining by normal epithelium. In our case, the extraction of the involved deciduous teeth removed part of the cystic lining. Instead of suturing the lining to the mucosa we packed open the cavity with iodoform gauze for two days and later replaced the gauze with an obturator. Gradual filling up of the cavity was observed during the follow up periods and the cavity is fully obliterated in 3 months.

## CONCLUSION

Success of Any surgical treatment lies in the preservation of vital structures and minimizing the post operative morbidity. Marsupialization is such a surgical technique. Other than dentigerous cyst it can be safely employed in most of the odontogenic cysts in mixed dentition. However proper case selection and patient compliance is mandatory while opting the surgical modality.

## REFERENCES

1. Soames, J.V. and J.C. Southam, Oral Pathology .4th other authors, [19,20]. edition 2005. London: Oxford University Press.
2. Varinauskas, V., A. Gervickas and O. Kavoliuniene, 2006. Analysis of odontogenic cysts of the jaws: Medicina (Kaunas), 42(3):201-7
3. Regezi, J.A. Sciubba, 1993. Clinical-Pathological Correlations. 2 edition. Pennsylvania: W.B. bone Saunders Company.
4. Nishide, Naoto, Hitomi, Gonjiro, Miyoshi and Norio, 2003. Irrigational therapy of a dentigerous cyst in a geriatric patient: a case report. Spec Care Dentist. 23(2): 70-2.
5. Pogrel, M.A. and R.C. Jordan, 2004. Marsupialization as a definitive treatment for the odontogenic keratocyst. J. Oral. Maxillo. Fac. Surg., 62(6): 651-5