

**OPERCULECTOMY PROCEDURE AS A CONSERVATIVE APPROACH IN THE PERICORONITIS OF PERMANENT MOLARS: A CASE SERIES**Dr. Shazan Mohammed Khan<sup>1</sup> and Dr. Tahera Tarek Syed\*<sup>2</sup><sup>1</sup>BSc, BDS, MDHM (Osm), MA (Clin.Psych), M.Phil, Oral and Dental Surgeon, Clinical Counselling Psychologist, Ex. Asst. Professor Owaisi Hospital (DSHM), SMK Dental Hospital, Hyderabad, Telangana, India.<sup>2</sup>BDS, MDS, Oral Physician, Dental and Maxillofacial Radiologist, Research Academic Writer, SMK Dental Hospital, Hyderabad, Telangana, India.**\*Corresponding Author: Dr. Tahera Tarek Syed**

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**ABSTRACT**

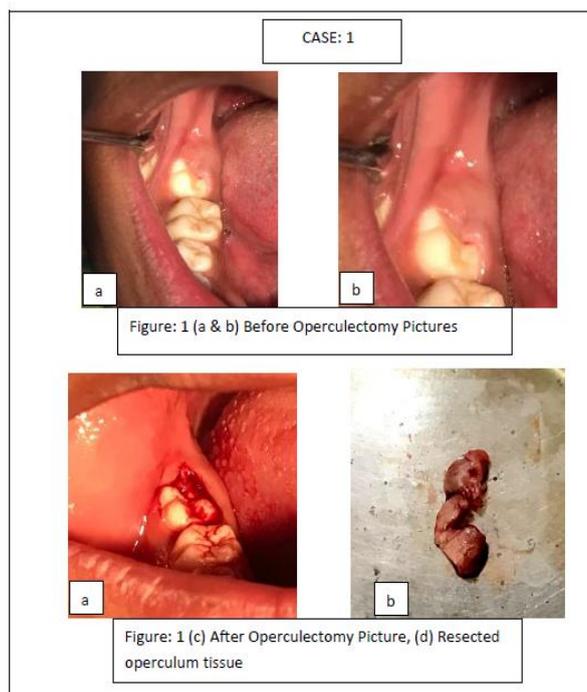
Pericoronitis is an acute or chronic periodontal inflammation around the crown of erupting or impacted teeth. Erupting permanent molars and partially impacted teeth often present with pericoronitis leading to dilemma in diagnosis and treatment options, as to whether to extract or retain the tooth. Depending on the circumstances, these molars may erupt in proper alignment and remain functional, otherwise they remain impacted at different levels and angulations in the jaws. In these cases, operculectomy procedures would be preferred over extraction owing to its conservative approach. Here, we are presenting a case series on erupting permanent molars teeth with pericoronitis in the age group of 13 to 30 years.

**KEYWORD:** Erupting and Impacted Molars, Pericoronitis, Operculectomy, Extraction.**INTRODUCTION**

Pericoronitis also called “operculitis”, is defined as inflammation of the oral soft tissues surrounding the crown of an erupted or partially erupted teeth.<sup>[1]</sup> The word pericoronitis is derived from the Greek word, peri means “around”, a Latin word, corona means “crown” and it is means “inflammation”.<sup>[2]</sup> Pericoronitis is commonly seen in the permanent mandibular third molar, but it can occur around the base of any tooth that has not erupted completely.<sup>[2]</sup> Pericoronitis is mostly seen in 67% of vertically impacted cases, 12% of mesio-angular cases, 14% of disto-angular cases, and 7% of various other positions.<sup>[2]</sup> The soft tissue covering over an erupting tooth or partially impacted tooth is known as the pericoronal flap or gingival operculum. In the operculum area, oral hygiene maintenance is very difficult to achieve with normal methods of oral hygiene.<sup>[2]</sup> Pericoronitis is most commonly seen in late adolescence or early adulthood life and the development depends on a variety of factors. The oral microflora may develop a pathologic potential under low immune resistance, bad oral hygiene, stress, viral infection, and support to the presentation of symptoms.<sup>[3]</sup>

Generally, a developed operculum surrounding the teeth encourages bacterial plaque retention in areas with an accumulation of food debris and the chewing trauma caused by the antagonist tooth, all the above are

considered to be aggravating factors of pericoronitis.<sup>[3]</sup> The present paper describes a case series on erupting permanent molars with pericoronitis which increases awareness of this condition.



**CASE REPORT: 1.**

A 14 year old male patient reported in a private Dental clinic with a chief complaint of pain on chewing food in his lower right back tooth region since two months. The patient reported a history of dull aching pain along with food lodgement in the region of chief complaint. Clinically the patient showed good general health with the absence of any relevant medical history. Intraoral examination revealed the presence of an operculum covering the occlusal surface of the lower right second permanent molar. (Figure:1{a&b}) The operculum was pink in color, firm, resilient, and remained tightly adhered to the gingival tissue distal of the lower permanent second molar tooth. No abnormalities were recorded on the radiographic examination of the affected tooth. The results of routine blood investigations were satisfactory.

**CASE REPORT: 2**

A 30 year old female patient reported in a private Dental clinic with a complaint of pain in her lower left back tooth region since fifteen days. She reported a continuous dull aching pain in her lower left back tooth region and food lodgement.

abnormality was detected and results of routine blood investigation was normal.

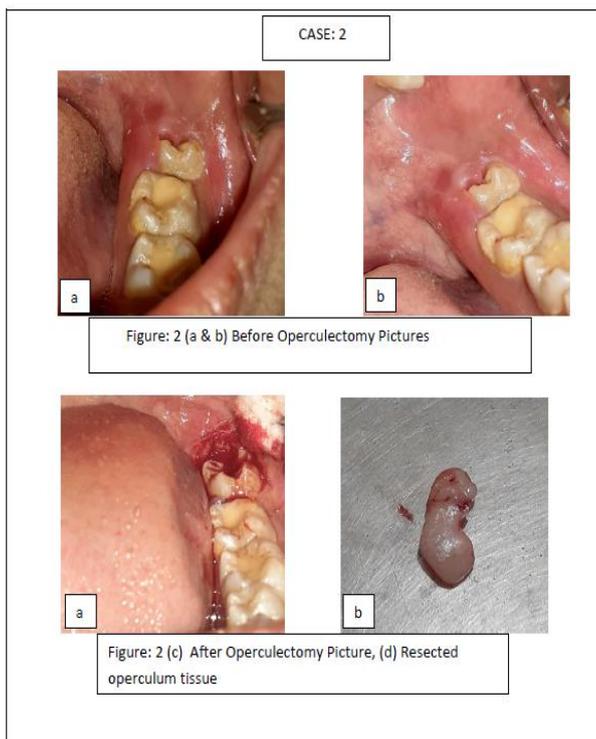
**Cases Management:** Management of the above cases is mentioned in the discussion part.

**DISCUSSION**

Operculectomy is a minimally invasive surgical procedure that exposes the permanent tooth by removing the operculum or tissue flap over a partially erupted tooth.<sup>[4]</sup> This surgery gives an easy-to-clean region, which prevents plaque formation and inflammation. Operculectomy can be performed with a surgical scalpel, electrosurgery, laser, or traditional caustic substances, e.g., trichloroacetic acid.<sup>[4]</sup> Operculectomy accounted for 65.4% and was performed more in females than males.<sup>[1]</sup> The prevalence of non-third molar-related pericoronitis is low compared to third molars.<sup>[1]</sup> In non-third molar-related pericoronitis is commonly observed in mandibular second molars.<sup>[1]</sup>

In the first case report, we performed operculectomy with the lower second permanent molar. (Figure:1{a&b}) The occurrence of a second permanent molar impaction is a rare case. Bondemark, Tsiopa, and Fu et al., mentioned that second permanent molar impaction generally occurs in the mandibular arch at 0.06% to 0.3% of occurrence.<sup>[4]</sup> Generally in a new generation, we observe inflammation of the erupting first, and second molar same as the inflammation once observed exceptionally in erupting third molars. According to Proffit, on average the second permanent molar will begin erupting in 11-13 years of age.<sup>[4]</sup> The most favorable age to treat eruption disturbances of second molars is between 10 and 14 years of age because the roots are still under development and the third molars are usually gems.<sup>[5]</sup>

**Management:** Antibiotics, analgesics, enzymes, and avoiding chewing on the affected sides, are line of management when patients report first-time discomfort. If considered to retain the tooth, operculectomy would be the best treatment option for the management of pericoronitis. It is considered if the patient suffers inflammation and discomfort more than three to four times in a year. In our case series, we performed operculectomy with the surgical scalpel method. (Figure:1&2 {c & d}) In both cases after formulating the treatment plan and following oral prophylaxis, the respective anesthetic block was administered to anaesthetize the operated molar site. An incision was made posterior to the distal molar area and operculum tissue was excised and the remaining distal tough fibrous tissues were separated to facilitate the eruption of the tooth. After that, the area was irrigated with a povidine-iodine solution. Post-operative instruction was given to the patients along with antibiotics and analgesics. The patient was highly motivated in oral hygiene practice and to keep the area clean. In follow-up visits, these patients had an uneventful healing.



**Figure 2(c): After Operculectomy Picture, (d) Resected operculum tissue.**

On examination, the patient was in good health and had no relevant medical history. On clinical examination the operculum was covering the partially erupted lower left third molar. (Figure:2{a&b}) The operculum covers the distal and lingual aspect of the lower left third molar. The operculum was mildly inflamed. The operculum was pink in color, firm, resilient, and loosely adhered to the gingival tissue. On radiographic examination no

## CONCLUSION

Pericoronitis is an inflammation of the operculum that often occurs in erupted or partially erupted teeth. Operculectomy is an alternate conservative approach in cases of pericoronitis. The management of operculectomy in cases of pericoronitis needs to be done very carefully, mainly by paying attention to the anatomical position of the erupted or partially erupted tooth and its surrounding tissue. Though pericoronitis around an erupted tooth as a disease entity looks negligible but one cannot be neglected because this kind of inflammation can transform into a localized abscess or can spread into adjacent soft tissue spaces leading to life-threatening conditions if left untreated.

The results of our case series concluded that, operculectomy is a promising alternate technique for the management of pericoronitis in terms of patient compliance with minimal or no complications when compared to removal of erupted or impacted teeth. Surgical exposure is a simple, minimally invasive, and reliable method that facilitates the eruption of teeth in most cases. This treatment option does not preclude further more complex treatments and aims to ease spontaneous eruption.

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