



Treatment of Large Periapical Cyst Like Lesion A Non-Invasive Approach: A Case Report

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Abstract

Periapical pathology develops as result of pulp disease. It is generally diagnosed either during tooth pain or routine dental radiographic examination.

Various conservative methods can be used for the treatment of periapical lesions: like Root canal treatment, active nonsurgical decompression technique, decompression technique, apexum, method using calcium hydroxide procedure. Periodic follow-up examinations essential for periapical healing. The main goal of endodontic therapy should be to normalise the involved teeth to a state of function and health without any surgical intervention. All periapical pathology should be initially treated with nonsurgical procedures. Surgical intervention should be the last option only after conservative treatment have failed.

Keywords: Calcium Hydroxide; Healing; Periapical Lesion

Abbreviations

IOPA: Intraoral Peri apical Radiograph; Ca(OH): Calcium Hydroxide

Introduction

Generally periapical pathology are sequelae to endodontic infection caused due to dental trauma. Large periapical pathology is generally seen with anterior maxillary teeth, probably due to traumatic injuries. These periapical lesions could be classified as pocket cysts (bay cysts) and true cysts, granulomas.

Granulomas usually contain solid soft tissue, while cysts have liquefied central area [1]. Pocket cysts epithelium is connected with the root canal while true cysts epithelium is not connected with the root canal [1]. On the basis of radiograph periapical pathology could not be predict either radicular cysts or apical granulomas.

The incidence of cysts within periapical pathology varies between 6 and 55%, granulomas range between 9.3 and 87.1%, abscesses range 28.7 and 70.07% [2]. According to Natkin, *et al.* with a radiographic lesion size of 200 mm² or larger, chances of cysts was almost 100%. If the pathology is separate from the apex and with an intact epithelium (apical true cyst) it may not heal when treated nonsurgically [3]. When large peri radicular lesion may have a direct connection with the root canal system (apical pocket cyst), they respond to nonsurgical treatment.

Case Report

A 19-years old Indian male patient reported to the department of conservative dentistry and endodontics with the chief complaint of a large palatal swelling. The patient gave a history of traumatic injury to anterior teeth 4 year back. On clinical examination, there was a palatal swelling behind the lateral incisor. Vitality testing was

done w.r.t. 21, 22 in which 22 was nonvital and 21 gave delayed response. On IOPA examination, large periapical radiolucency was seen w.r.t lateral incisor (Figure 1).

When the access opening was done w.r.t. 21,22, suppurative fluid which was drained. After working length and BMP, Ca(OH)₂ dressing was given in subsequent visits and intermediate dressings were given for 15 days w.r.t.22,21. Once the patient was asymptomatic and no pus discharge was seen, Irrigation was done with normal saline and later with 2.5% hypochlorite. After that master cone gutta purcha was inserted into the canals (Figure 3), obturation was done (Figure 4). After 6 month follow up radiograph remarkable reduction in periapical lesion. (Figure 5).



Figure 1: Preop radiograph w.r.t 21,22 showing periapical radiolucency.

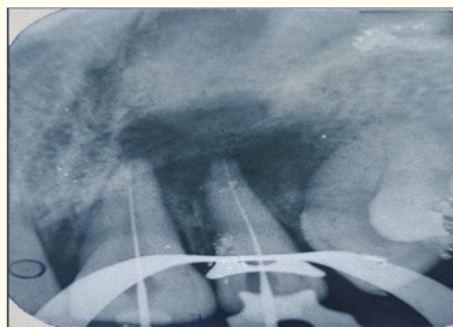


Figure 2: Working length radiograph w.r.t 22,21.

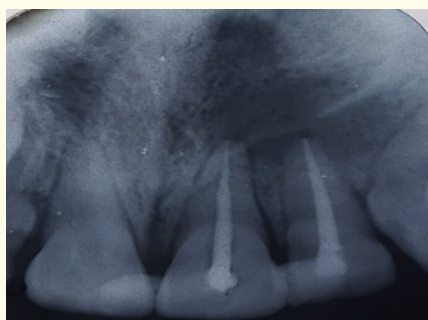


Figure 3: Master cone radiograph w.r.t 22,21.

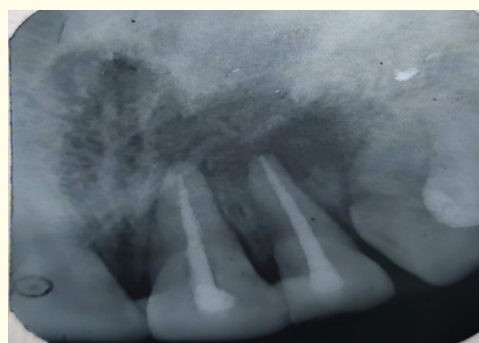


Figure 4: Final obturation radiograph w.r.t 22,21.

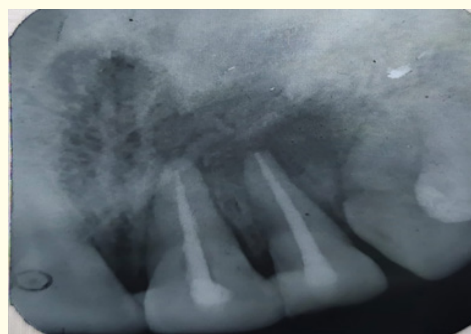


Figure 5: Periapical healing after 6 months.

Discussion

For large periapical lesions treatment option may be nonsurgical root canal therapy with calcium hydroxide intracanal medication to various surgical interventions [4]. The exact mechanism in the formation of periapical lesions is not known. It is believed that if the pulp becomes necrotic, microorganisms start multiply and release various toxins into the surrounding tissue initiating an inflammatory response and leading to the formation of periapical pathology [5]. According to Toller (1972) the growth of the cyst occur due to the increased hydrostatic pressure of the confined fluid, which increase osteoclastic activity [6]. The antimicrobial property of Ca(OH)₂ occur due to its high pH 12.5, it has a destructive effect on cell membranes. Because it plays a major role for the disinfection of the canal, that's why Ca(OH)₂ based paste was used for dressing in this case [7].

Conclusion

A conservative approach should always be adopted before starting to surgery. When there is drainage of cystic fluid occur from the root canals decompression technique can be used. The hydrostatic pressure decreased by theses technique within the periapical lesion. Regular change of intracanal dressings of calcium hydroxide has proved to be very beneficial for reducing the size of periapical lesion.

Conflict of Interest

The author has no conflicts of interest to declare.

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