Management of gingival polyp in restoration procedure: A case report

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Abstract

Objective: Gingival Polyp, which are focal fibrous hyperplastic lesion, are also known as, localized gingival enlargement. Represent a reactive hyperplasia of fibrous connective tissue in response of trauma or irritation. The gold standard for its treatment is surgical excision performed with a scalpel, electrocautery or lasers. This case report presents treatment for proximal carious teeth with gingival polyp.

Methods: A 20 year male patient reported to Conservative Department. He complained of proximal cavity, mild sensitivity to cold, painless growth of the gum in lower right back tooth region. An oral examination revealed a reddish-pink soft gingival overgrowth of 5x4 mm in size, localized to interproximal area and presenting with a pedunculated base with relation to teeth 45. Summatting the clinical presenting features, a provisional clinical diagnosis of gingival polyp was made.

Results: First treatment was caries cleansing, then the cavity was closed with cotton with dripped of eugenol. The gingival polyp are smaller than before. Then a local anesthetich is performed to remove the remaining gingival polyp tissue. Gingival polyp are cut using an excavator and restoration cavity using composite.

Conclusion: Eugenol exerts a beneficial action on anti-inflammatory so could reduce the edema of gingival soft tissue. The treatment acceptance but the expected results are still not maximal so that it still needs to excision.

Keywords: Eugenol, Gingiva, Polyp

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Introduction

The polyps are the body’s reaction to fight physically infection by forming granulation tissue to locating infections. It usually associate with young pulps which are rich blood vessels, adequate open space for drainage, and tissue proliferation. There are described under two types, pulp polyp and gingival polyp. Pulp Polyp are that grow from dental pulp. Gingival polyp are that grow from pulp gums. Gingival polyp formed by localized chronic inflammation soft tissue in gingiva. Localized reactive soft tissue lesions are described under four categories, focal fibrous hyperplasia, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma.

Gingival Polyp, which are focal fibrous hyperplastic lesion, are also known as, localized gingival enlargement or epulis. It merely represent a reactive hyperplasia of fibrous connective tissue in response of trauma or irritation. The primary reason for the occurrence of gingival polyp is attributed to local factors such as caries, overhanging margin, calculus and tooth malposition. Gingival polyp can grow in the proximal tooth cavity near the gum area like as class II cavity. Sometimes, It swollen pale pink gums, enlarge to fill the area in the tooth cavity. It generally occurs in border area cavity of the teeth with neighboring teeth (class II cavity).

Enlargement of the gum can be reduced by incision, minor surgical procedures, undergone anesthetized conditions. The gold standard for this treatment is surgical excision performed with a scalpel, electrocautery or lasers. The procedure resection of gingiva away from the tooth surface to expose the cervical portion of tooth in order to have proper marginal finish to the restoration. After incisional procedure to gingival polyp, treatment of teeth are continued. Next treatment of the teeth depends condition the tooth whether vital or not. Treatment also accordance with the results of the objective examination and diagnose. The tooth is diagnosed reversible pulpitis, these treatment is direct restoration or indirect restoration. Whereas, the tooth on irreversible pulpitis or non-vital teeth, root canal treatment should be done. This case report presents treatment for proximal carious teeth with gingival polyp.

Case Report

A 20-year male patient reported to Conservative Department, Dental Hospital Jenderal Soedirman University. He complained of proximal cavity, mild sensitivity to cold, painless growth of the gum in lower right back tooth region. On further elucidation of the history, he complained of bleeding from
the gingiva associated with the growth on brushing. Her medical history was non contributory. An oral examination revealed a reddish-pink soft gingival overgrowth of 5x4 mm in size, localized to interproximal area and presenting with a pedunculated base with relation to teeth 45. Summating the clinical presenting features, a provisional clinical diagnosis of gingival polyp was made. Positive Pulp Vitality testing by Etyl Chloride. After thorough examination and deliberation, it was decided to restore 45.

**Case Management**

The procedure was explained and informed consent taken from the patient. On the first visit, the patient was examined and the first treatment was caries cleansing. We applied cotton with dripped of eugenol, and a temporary restoration in cavity, then instructed to control one week after treatment. The second visit, temporary restoration was opened and eugenol was taken. The gingival polyp were smaller than before. Then, a local anesthetic is performed to remove the remaining gingival polyp tissue. Gingival polyp are cut using an excavator. After that, a cavity was prepared in 45, which was followed by etching with 37% phosphoric acid and bonding with 3M Universal bond, and restoration was using composite solare shade A3.

Oral mucosa obtain external and internal stimulating element which can manifests a disease that range from developmental, reactive and inflammatory to neoplastic changes. Reactive hyperplastic lesions represent the most frequently encountered oral mucosal lesions in humans. Reactive lesions are commonly seen in the gingiva and their occurrence in other places of the oral cavity, such as the tongue, palate, cheek and floor of the mouth is less common. Reactive lesions are tumor-like hyperplasia that are produced in association with chronic local irritation or trauma, low-grade injury like chewing, trapped food, calculus, fractured teeth and iatrogenic factors, refitting denture and overhanging dental restorations. Characteristic of these lesion are painless pedunculated or sessile masses in different colors, from light pink to red.

Lesions of the oral cavity include epulis fissuratum, inflammatory papillary hyperplasia and inflammatory fibrous hyperplasia. Reactive lesions are tumor-like hyperplasia that are produced in association with chronic local irritation or trauma, low-grade injury like chewing, trapped food, calculus, fractured teeth and iatrogenic factors, refitting denture and overhanging dental restorations. Characteristic of these lesion are painless pedunculated or sessile masses in different colors, from light pink to red.

**Table 1** Different Characteristic Pulp Polyp and Gingival Polyp

| Characteristic | Hyperplastic pulpitis (pulp polyp) | Fibro-epithelial polyp (Gingival Polyp) |
|---------------|----------------------------------|----------------------------------------|
| Form          | Irregular shape like “Mushroom”  | Smooth, swelling that can be firm       |
| Colour        | Cherry red                       | Pink                                    |
| Origin        | Living pulp tissue               | Gingiva Tissue                          |

![Figure 1](image1.png) Chronic hyperplastic pulpitis on 46

![Figure 2](image2.png) Gingival Polyp

A fibro-epithelial polyp or fibrous hyperplasia localize in gingival, gingival polyp, is the most common benign soft tissue tumor seen in the oral cavity. The lesion present a painless, pink,
pedunculated swellings that can be firm and soft consistency figure 2. Gingival polyp is result of chronic process in which an exaggerated repair occurs, include granulation tissue and formation of scar. It usually occur before the fourth decade of life and its prevalence is not sex-specific. In this case, patient were 20 years old. The treatment modalities of gingival polyp is the excision. Excision must have perfect removal of the lesion, minimal operative time, bloodless, painless, quick recovery, and good healing from treatment. Different clinical these were possible which included pulp polyp or gingival polyp table 1. Radiographic may help to diagnosed its.

Discussion

First visit in this case, patient was treatment with eugenol for cavity's dressing to reduce swelling of gingival polyp. Eugenol is a major ingredient of dental materials such as, filling materials, dental cements, endodontic sealers, periodontal dressing materials and dry socket dressings. Eugenol has sedative, anodyne effect, and antibacterial properties. Eugenol significantly attenuates the acid production, adherence and water-insoluble glucan synthesis activities of S. mutans and suppresses dental caries development. Eugenol could reduce the incidence of alveolar osteitis, pain, inflammation, infection, and better wound healing, inhibited the inflammation, and reducing the edema formation. Eugenol has anti-inflammatory activity by inhibiting the PMN infiltration and apoptosis through caspase-3 cleavage but limited the effects against oxidative stress. Both, eugenol can modulate the macrophage functions and regulates negatively the inflammation. Macrophage is one of the immune system cells that contribute to the production of mediators proinflammatory cytokines and nitric oxide, which are important to cellular and vascular during progression of inflammatory process.

After one week, our present case report, gingival polyp was become small, but need to excision to give better accessibility, visibility and ease of operation to restore cavity. Resection of gingiva is away from the tooth surface or deepening of gingival sulcus to expose the cervical portion of tooth. This result has proper marginal finish to the restoration or by establishing a good cervical cavosurface margin to the tooth preparation. Therefore, a minimum width of 3 mm (including the depth of the gingival sulcus) must be maintained from the preparation margin of any restoration. The composite restoration give the optimal aesthetics and functions of the tooth. Hence, this paper highlights about the involved in the management of proximal carious lesion with gingival polyp in young aged adults.

Conclusion

Our case report has a fact that eugenol exerts a beneficial action on anti-inflammatory so could reduce the edema of gingival soft tissue. The treatment acceptance but the expected results are still not maximal so that it still needs to excision.

Acknowledgment

The authors report no conflict of interest.

Conflict of Interest

The authors report no conflict of interest.

References

1. Burt BA, Eklund SA. Dentistry, dental practice and the community. 6th ed. Philadelphia: Saunders Company; 2005. p. 194–195.
2. Farista S, Babu B, Farista S, et al. Laser assisted excision of a gingival polyp in a pediatric patient: report of a case. European J Biomed Pharm Sci 2015;2: 600–607.
3. Suci EST. Pulpa polip dan gingival polip. Psikobuana 2009;1.
4. Mishra A, Pandey RK. Fibro-epithelial polyp in children: a report of two cases with a literature review. Intractable Rare Dis Res 2016;5: 129–132.
5. Kanaparthi A, Kanaparthi R. Management gingival tissue in restorative procedure. European J Pharm Med Res 2015;2: 73–78.
6. Effiom OA, Adeyemo WL, Soyele OO. Focal reactive lesions of the gingival: An analysis of 314 cases at tertiary health institution in Nigeria. Niger Med J 2011;52: 35–40.
7. Mavrogiannis M, Ellis JS, Thomason JM, et al. The management of drug-induced gingival overgrowth. J Clin Periodontol 2006;33: 434–439.
8. Reddy V, Saxena S, Reddy M. Reactive hyperplastic lesions of the oral cavity: A ten-year observational study on North Indian Population. J Clin Exp Dent 2012;4: e136–140.
9. Kadeh H, Saravani S, Tajik M. Reactive hyperplastic lesions of the oral cavity Iranian. J Otorhinolaryngol 2015;7: 137–144.
10. Anilukmar K, Lingeswara S, Ari G, et al. Management of chronic hyperplastic pulpitis in mandibular molars of middle-aged adults- a multidisciplinary approach. J Clin Diagn Res 2016;10: ZD23–ZD25.
11. Sattari M, Haghighi AK, Tamijani HD. The relationship of pulp polyp with the presence and concentration of immunoglobulin E, histamine, interleukin 4 and interleukin 12. Aust Endod J 2009;35: 1648.
12. Mavrogiannis M, Ellis JS, Seymour RA, et al. The efficacy of three different surgical techniques in the management of drug-induced gingival overgrowth. J Clin Periodontol 2006;33: 677–692.
13. Shukla P, Dahiya V, Kataria P, et al. Inflammatory hyperplasia: from diagnosis to treatment. J Indian Soc Periodontol 2014;18: 92–94.
14. Paul S, Pudukulangara A, Kulal R, et al. Fibro-epithelial polyp in children: a report of two cases with a literature review. J Health Sci Res 2015;6: 52–55.
15. Pradeep K, Ashank M, Butchibabu K, et al. Fibroepithelial polyp excision with laser and scalpel: a comparative evaluation. Int J Curr Microbiol App Sci 2014;3: 1057–1062.
16. Xu J, Li Y, Cao X, et al. The effect of eugenol on the cariogenic properties of streptococcus mutans and dental caries development in rats. Exp Ther Med 2013;5: 1667-1670.
17. Sarrami N, Pemberton MN, Thornhill MH, et al. Adverse reactions associated with the use of eugenol in dentistry. British Dent J 2002;193: 257-259.
18. Esmaeili F, Rajabnejhad S, Partoazar AR. Anti-inflammatory effects of eugenol nanoemulsion as a topical delivery system. Pharmaceutic Development Technol 2016;21: 887-893.
19. Barboza JN, Filho CSMB, Silva RO, et al. An overview on the anti-inflammatory potential and antioxidant profile of eugenol. Oxid Med Cell Longev 2018: 1-9.
20. Padbury-jr A, Eber R, Wang HI. Interactions between the gingiva and the margin of restoration. J Clin Periodontol 2003;30: 379-385.