

A case of repeated gum boils with frequently yellowish foul discharge

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SELF-ASSESSMENT QUIZ

A thirty-five year old female has presented in your clinic with a chief complaint of “a repeated gum boil which frequently opens up with yellowish foul discharge related to the upper left front teeth towards the lip side.” Her medical history was found non contributory.

The patient could not recall a history of any trauma to her upper front teeth. The clinical examination of her involved teeth revealed intact clinical crowns, slightly darkened lateral incisor, and periodontal probing was found within normal limits. The labial mucosa in her upper left anterior teeth region appeared inflamed with no observable swelling; an evidence of a healed sinus tract was noted on the attached gingival in the canine area. The palatal mucosa appeared normal.

Questions

1. Which tooth (teeth) is (are) involved in this problem?
2. What diagnostic tests would you perform?
3. What is your diagnosis for this patient?
4. How should this case be treated?



Figure 1. Preoperative periapical radiograph

(Please turn to next page for answers.)

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Answers

1. Which tooth (teeth) is (are) involved in this problem?

There is **No** answer for such a question. Unfortunately one might be easily deceived by the information presented on radiographs. It is imperative to appreciate the inherent limitation of the use of radiographs as they provide a two dimensional image of a three dimensional object. The size of the lesion and the number of teeth apparently involved on the radiographs should not be looked at as sole determining factors in treatment planning.

Another limitation of radiographs is the personal variances in their interpretation. In a related study Gelfand and co-workers¹ have shown that only a little over 50% of the participating dentists have agreed in reading the same radiographs in less than 50% of the time! In the same study 22% of the dentists replied differently on the same radiograph when viewed twice.

2. What diagnostic tests would you perform?

Diagnosis and treatment of cases of teeth with open apices and large periapical lesions should be performed following a systematic approach. Careful studying of the chief complaint and the history of the chief complaint usually provide dependable leads to follow. Failure to identify the involved tooth or teeth will be negatively reflected on the treatment outcome. The available literature indicates that no single diagnostic test can be totally reliable. All relevant tests should be performed before a clear treatment plan can be designed and executed. Shortcuts cannot be accepted in handling such cases.

Before running the diagnostic tests, the operator should establish a communication base with the patient including what to expect and how to respond to the tests performed.

The applied diagnostic tests in this case include:

A. THERMAL TESTS

These tests include both cold and heat tests. They are indicative of pulpal status in terms of whether a pulp is healthy or not, or stressed as was called by Abou-Rass.² One

should also remember here that it has long been shown by Seltzer et al. that no relation could be linked between the clinical findings of these tests and the histological picture of the pulp.³

Since the chief complaint of this case did not reflect any sensitivity to thermal changes, the objective of applying thermal tests here would be for the purpose of ruling out teeth with vital pulps and confirming the suspected lateral incisor. It is recommended to perform the tests first on a healthy tooth as a control, in order to make the patient familiar with the stimulus and to alert the operator about the normal pain threshold of the patient. The major point here is to avoid repeating the tests within a short period of time like seconds, in order to avoid yielding conflicting results.

In this case all teeth in the area responded within normal limits to both cold and heat tests, and failed to elicit any response when applied to the lateral incisor.

B. ELECTRIC PULP TESTS

The mode of action of the so called EPT (Electric Pulp Tester) is to induce pulpal response by electric excitation of nerve endings particularly the A-delta nerve fibers. The only information obtained from using these devices is whether the pulp is responsive or not, with no attempt to differentiate degrees of pulpal pathosis.⁴ It is advised to repeat the test several times before drawing a conclusion with no fear of developing adaptation or habituation by the patient.⁵ The old misconception of the contraindication of the use of pulp testers on patients with pacemakers has recently been debated by Miller et al, who reported their safe use on these patients especially with the available new generations of EPT.⁶

In this patient, the EPT is used to assist in recognizing the non vital teeth in the area with clear understanding of the unreliable results of using it on teeth with open apices.

C. PALPATION AND PERCUSSION

These are not pulp vitality tests! Positive responses of these tests often indicate extension of pulpal inflammation to the periradicular tissue. It is important to note that cases with chronic periapical inflammation often yield negative results with these tests.

In this patient the result of the percussion and palpation tests revealed slight tenderness

especially in relation to the root apex of the lateral incisor.

D. SINUS TRACING

A size 35 gutta-percha cone is usually recommended to be used as a tracer to pin point the offending tooth whenever a sinus tract is detected. One must consider that sinus tracts do not often lay directly beneath their openings on the surface.

E. MOBILITY

The test is aimed to explore the integrity of the periodontal attachment.

In this patient the evident amount of bone loss in the radiograph especially in the lateral incisor area reflected the need to explore the chances of tooth mobility.

In this case the results were all within normal limits.

3. *What is your diagnosis for this patient?*

No conclusion should be drawn from the radiographs with regard to the nature of the pathosis; the commonly used terms 'a cyst' or 'a granuloma' should only be concluded from the result of the histopathology of the biopsy taken whenever indicated.

The history given by the patient and the results of the above tests indicated that the lateral incisor had lost its vitality some time before root formation was completed. The irritants from the necrotic pulp have triggered the periapical pathosis. This situation had led to the development of the so-called "chronic apical periodontitis". With the history of in-

termittent discharge of pus through the sinus tract, the condition may also be called "chronic suppurative apical periodontitis".

4. *How should this case be treated?*

Endodontic therapy of the lateral incisor is the treatment of choice in this case. The procedures will be discussed in detail in the next issue of the Journal.

References

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