

---

## INCONGRUOUS PERIAPICAL ABSCESS? : A CASE REPORT

\* Aron Arun Kumar Vasa, \*\* Suzan Sahana, \*\*\* Ravichandra Sekhar. K \*\*\*\* Vijaya Prasad. K. E.

\* Sr. Lecturer

\*\* Sr. Lecturer

\*\*\* Professor & HOD

\*\*\*\* Professor

Department of Pedodontics & Preventive Dentistry, St. Joseph Dental College, Eluru. India

---

### ABSTRACT

*Abscesses are usually localized and confined to the focus of infection or they can be diffuse, spreading through the tissue spaces. This article highlights a rare case, where the locus of abscess is incongruous to the origin of infection, but the abscess resolved on eliminating the source of infection. Prompt diagnosis, timely administration of antibiotics and initiation of pulp therapy led to successful resolution of this infection.*

**KEY WORDS: Periapical Abscess, Incongruous, Sinus, Submandibular Space**

### INTRODUCTION

Abscesses are usually caused by specific microorganisms that invade the tissues, often by way of small wounds or breaks in the skin. An abscess is a natural defense mechanism in which the body attempts to localize an infection and "wall off" the microorganisms so that they cannot spread throughout the body.<sup>1</sup>

There are at least three types of dental abscesses that resemble each other. It is their point of origin that differentiates them. A *gum or gingival abscess* is the result of injury to, or infection of, the surface of the gum tissue. If an infection moves deep into gum pockets, drainage of pus is blocked and a *periodontal abscess* results. A *periapical abscess* refers to a tooth in which the pulp is infected, usually secondary to tooth decay.<sup>1</sup>

A periapical abscess may occur when bacteria invade the dental pulp, causing the pulp to die. This most commonly happens as a result of dental caries, which destroy the enamel and dentin, allowing bacteria to reach the pulp. The abscess is called acute or chronic, depending on how rapidly it forms and how effectively the body defends itself. An acute abscess is characterized by pain, swelling, and fever. Unless the whole tooth is badly decayed, the tooth can be saved by pulp therapy.

However, it is unusual to find a swelling not localizing the diseased tooth. Here we report a special case of dental abscess which manifested on the contralateral side of the source of infection.

### CASE REPORT

#### History

An eight year old male child reported to the Department of Pedodontics and Preventive Dentistry, St. Joseph Dental College, Eluru, India with a chief complaint of pain and swelling in relation to lower right region of the Jaw. The pain was acute, child was unable to have food since three days and also gave a history of fever since then. Pain was continuous and of gnawing type. There was no history of trauma and even the medical history was noncontributory.

#### Extra Oral Findings

The extra oral swelling was diffuse and was present on the right lateral surface of mandible extending inferiorly up to lower border of the mandible, superiorly up to occlusal plane measuring five centimeters in length and three centimeters in height. The swelling was soft, tender and mobile. Submandibular lymph glands were palpable and tender bilaterally.

**Intra Oral Findings - (Fig. 1)**

Soft tissue examination revealed diffuse intraoral swelling in relation to the buccal vestibule of 83. There was copious pus discharge in the mouth from sinus. Examination of the teeth revealed pre-shedding mobility of 72 and deep proximal caries in relation to 75. All the teeth of the lower jaw were tender on percussion. There was no periodontal pocket present in the oral cavity although the oral hygiene status was poor.

**Radiographic Findings\_ (Fig. 2, 3 & 4)**

Radiographic findings showed pulpally involved 75 and no other apparent abnormalities.

**Treatment**

The patient was kept on antibiotics (Amoxicillin and Clavulanic acid) and analgesics (Ibuprofen). Pulp therapy of 75 was initiated and after the first week of treatment there was drastic regression in the swelling and even the pain subsided. [Fig. 5] After the second week of treatment, the swelling completely regressed and even the sinus tract healed. [Fig. 6 & 7]

**DISCUSSION**

A dental abscess is an infection of the mouth, face, jaw, or throat that begins as a tooth infection or dental caries. Although these infections can be caused by poor dental health and can result from lack of proper and timely dental care, they may also occur in people with underlying autoimmune disorders (Sjögren's syndrome etc.) and people who have conditions that weaken the immune system (diabetes, radiation/chemotherapy etc.). Dental abscesses can also be triggered by minor trauma in the oral cavity.<sup>2</sup>

Abscesses may fail to heal for several reasons including Cyst formation, Inadequate root canal therapy, Vertical root fractures, Foreign material in the lesion, Associated periodontal disease and Penetration of the maxillary sinus.<sup>3</sup>

Following conventional and adequate root canal therapy, abscesses that do not heal or enlarged are often treated with surgery, retrograde filling and will require a biopsy to evaluate the diagnosis.<sup>4</sup>

If left untreated, a severe tooth abscess may become large enough to perforate bone and extend

into the soft tissue eventually leading to osteomyelitis and cellulitis respectively. From then it follows the path of least resistance and may spread either internally or externally. The path of the infection is influenced by the location of the infected tooth and the thickness of the bone, muscle and fascia attachments.<sup>3</sup>

External drainage may begin as a boil which bursts allowing pus drainage from the abscess, either intraorally (usually through the gingiva) or extra orally. Chronic drainage will allow an epithelial lining to form in this communication, which leads to fistula formation. Sometimes this type of drainage will immediately relieve some of the painful symptoms associated with the pressure.<sup>3</sup>

Internal drainage is more of a concern as the growing infection percolates into tissue spaces surrounding the infection. Severe complications requiring immediate hospitalisation include Ludwig's angina, which is a combination of growing infection and cellulitis which closes the airway space causing suffocation in extreme cases. Also infection can spread down the tissue spaces to the mediastinum which has significant consequences on the vital organs such as the heart. Another complication usually from upper teeth is a risk of septicaemia (infection of the blood), brain abscess, (extremely rare) or meningitis (also rare).<sup>3</sup> Depending on the severity of the infection, the patient may feel only mildly ill or in extreme cases require hospital care.

"The extreme variability of toothache is such that a good rule for any examiner is to consider all pains about the mouth and face to be of dental origin until proved otherwise".<sup>5</sup>

In the present case, since there is no other reason for the origin of pain, swelling and sinus tract in relation to 83, the most probable cause should have been the decayed 75 which is pulpally involved. Although periapical dental abscess is very common, the presence of abscess on the contralateral side of the probable source of infection makes this case unique. In this case, the radiographs reveal pulpal involvement of dental caries in relation to 75 which may have led to the submandibular space infection<sup>6</sup> and moreover as sinus is observed in areas of least resistance, it might have been seen in relation to 83 leading to the "Incongruous Periapical Abscess".



figure – 1



figure – 5



figure – 2



figure – 6



figure – 3



figure – 7



figure – 4

**CONCLUSION**

While the relief of pain and associated symptoms are due to the usage of antibiotics and analgesics, the same cannot be associated with the sinus tract, since usage of medication does not eliminate sinus tract.<sup>7</sup> However, in this case a definitive reduction of sinus tract is observed when the pulpally involved 75 is treated.

Though the exact etiology for the translocation of the abscess and its association with the diseased 75 is not known, any number of idiopathic variables may have influenced this phenomenon. Unfortunately, the literature pertaining to these type of cases is very rare and the authors believe that further research and investigations are warranted to establish a cause and effect relationship.

**REFERENCES**

1. HealthScout.com [Internet]. Arlington, Virginia: The HealthCentralNetwork, Inc.; C 2001-10 [Updated 2009 Apr 1; Cited 2010 Feb 9]. Available from: <http://www.healthscout.com/ency/68/642/main.html/>.
2. emedicinehealth.com [Internet]. Atlanta, Georgia: WebMD, Inc.; C 2010 [Updated 2009 Aug 12; Cited 2010 Feb 9]. Available from: [http://www.emedicinehealth.com/dental\\_abscess/article\\_em.htm/](http://www.emedicinehealth.com/dental_abscess/article_em.htm/).
3. en.wikipedia.org [Internet]. San Francisco, California: [Updated 2010 Feb 3; Cited 2010 Feb 9]. Available from: [http://en.wikipedia.org/wiki/Tooth\\_abscess/](http://en.wikipedia.org/wiki/Tooth_abscess/).
4. Neville BW, Damm DD, Allen CM, Bouquot JE. Pulpal and Periapical Disease. In, Neville BW (ed). Oral & Maxillofacial Pathology. 2<sup>nd</sup> edition. Philadelphia, Saunders – An imprint of Elsevier, 2005;pp.121-4.
5. Bell WE. Bells Orofacial Pain
6. Schuknecht B, Stergiou G, Graetz K. Masticator space abscess derived from odontogenic infection: imaging manifestation and pathways of extension depicted by CT and MR in 30 patients. Eur Radiol 2008;18:1972-9.
7. Johnson BR, Remeikis NA, Van Cura JE. Diagnosis and treatment of cutaneous facial sinus tracts of dental origin. J Am Dent Assoc 1999;130:832-6.

**Corresponding Author :****Dr. Aron Arun Kumar Vasa**

Sr. Lecturer, Dept. of Pedodontics  
St. Joseph Dental College, Eluru, AP, India  
Pin: 534 003  
Email: - vasaaron@gmail.com  
Ph: +91-99120-14111  
Ph: +91-8812-277634