Nonsteroidal anti-inflammatory drugs misleading the diagnosis of periapical abscess

Abstract
Periapical abscesses are common but may rarely be a subclinical infection in dental clinics. If an infection progresses rapidly or slowly as a tooth ache of chronic periodontitis with clinical features misleading the diagnosis, the dentists are able to recognize the salient signs and identify the patients at risk. This article reviews a case of a rare innocuous periapical abscess presenting as angioedema of upper lip with history of consuming nonsteroidal anti-inflammatory drugs such as diclofenac sodium whenever needed for arthralgia on a short-term basis.

Key words: Angio neurotic edema, nonsteroidal anti-inflammatory drugs, periapical abscess, subclinical infection

INTRODUCTION
The periapical abscess usually results from an infection of the pulpal tissue causing the pulp to become necrotic and it is very uncommon to present with lip swelling.[1] This type of infection causes fluids and by-products to build up within the walls of the pulp chamber and root canal. The periapical abscess forms when these materials escape through the apical foramen of the tooth. An area of exudate accumulation occurs in the bone surrounding the apex, builds the pressure through the alveolar bone and the gingiva. This swelling rarely extends to the lips and the adjoining facial soft tissue as the infection progresses from acute periapical abscess.[2] The signs and symptoms of periapical infection can be reduced by draining the accumulated exudates freely. If the adequate drainage is not established through pulpectomy, incision and drainage by tooth extraction is the commonly preferred procedure to prevent systemic complications. Despite of these infections 75% patients with painful abscesses with no systemic symptoms may be treated with antibiotic therapy.[3]

CASE REPORT
A 50-year-old post-menopausal woman was seen by a dentist for the pain in the left side of the upper lip. After thorough examination of the patient, the dentist diagnosed it as chronic periodontitis and pulpitis of the left upper second incisor. The dentist advised her oral hygiene and extraction at a later date. She was advised to take oral paracetamol 500 mg thrice daily for 3 days. Two weeks after this episode of visiting a dental clinic, the patient developed swelling of the upper lip [Figure 1] with mild puffiness of the face. The patient was also suffering from osteoarthritis of both knees and used to take diclofenac sodium 50 mg twice daily or Ibuprofen 400 mg thrice daily frequently and irregularly by her own by purchasing over the counter (OTC). When she visited the same dentist again for consultation, it was diagnosed as angioedema of the upper lip, an allergic phenomenon[4] due to nonsteroidal anti-inflammatory drugs (NSAIDs), and advised to consult a physician for further management.

When the patient was referred to the physician for the management of angioedema of the upper lip with the history of taking NSAIDs for arthralgia, she was advised to stop taking NSAIDs and was prescribed corticosteroids.
After a week she developed the similar swelling of the upper lip again [Figure 2]. This time there was no history of taking NSAIDs. She was again referred to the physician for review and found no obvious focus of infection. She was prescribed oral antibiotic amoxicillin 500 mg thrice daily anticipating subclinical soft tissue infection around the mouth and nose.\(^5\)

DISCUSSION

In this case the clinical features of acute periapical abscesses misled the treating physician and the dentist to diagnose one of the allergic manifestations of NSAIDs, since
history of taking NSAIDs of her own choice, frequently buying over the counter. The anti-inflammatory action of corticosteroids subsided temporarily the swelling of the upper lip for 2 weeks and the reappearance of the swelling after stopping the corticosteroids clinched the diagnosis of infectious origin and not an allergic phenomenon.

Although the periapical abscesses may rarely be associated with asymptomatic pulpal infection, percussion and palpation tests should be done to differentiate periapical abscess from facial soft tissue infections. The prevalence of periapical abscesses has been reported to range from 5–46%.[9] In view of prevalence of this condition in every day dental practice and the evidence of practice variation, a systematic review is warranted. The purpose of the study is to use a logistic regression model to determine any associations between the signs and symptoms and different pulpal infections, facial soft tissue infections, and allergic manifestations in a large patient population.[10]

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