Dermatology Clinics & Research

DCR, 1(2): 31-33 www.scitcentral.com



Original Case Report: Open Access

Efficacy of cone-beam computed tomography for the diagnosis of external dental fistula

Hideo Takenoshita¹ and Toshiyuki Yamamoto^{2*}

¹Department of Dermatology, Shirakawa Kosei General Hospital, Japan ^{2*}Department of Dermatology, Fukushima Medical University, Fukusima, Japan

Received April 22, 2015; Accepted May 21, 2015; Published Aug 25, 2015

ABSTRACT

External dental fistula often presents with facial sinus, and patients visit dermatology clinics. Usually, diagnosis is not difficult by orthopantomography. We present a case of external dental fistula which was not detected by orthopantomography, but examination by cone-beam computed tomography (CT) revealed a small sequestrum.

Keywords: Dental fistula, Skin, Cone-beam CT

CASE REPORT

A 62-year-old woman was referred to our hospital, complaining of a nodular lesion on her right cheek, with 2 months' duration. Previously, she visited otolaryngology department, and needle biopsy showed no malignancy. Administration of antibiotics resulted in no effects. On the initial visit to our department, a physical examination showed a reddish dimpled nodule located on the right cheek (Figure 1). Clinical diagnosis was external dental fistula, however, examination by pantomography did not detect any abnormalities. Histological examination showed nonspecific granulation with dense infiltration of inflammatory cells composed of lymphocytes, neutrophils, histiocytes and plasma cells in the whole dermis (Figure 2). Tissue cultures bacteria, mycobacterium tuberculosis and nonfor tuberculous mycobacterium were all sterile. Also, polymerase chain reaction (RCR) analysis for mvcobacterium tuberculosis and non-tuberculous mycobacterium were negative. Laboratory examination showed no abnormalities including liver and kidney function, and tuberculin test revealed negative reaction. Cone-beam computed tomography revealed the presence of a small sequestrum (Figure 3). Surgical treatment with sequestrectomy resulted in improvement with scar within 3 months.

DISCUSSION

It is important to make a correct diagnosis of external dental fistulas, because they sometimes masquerade skin tumors [1]. Orthopantomography is frequently used for making a



Figure 1. Clinical appearance of the dimpled nodule on the cheek

Corresponding author: Toshiyuki Yamamoto, MD, PhD, Department of Dermatology, Fukushima Medical University, Hikarigaoka 1, Fukushima 960-1295, Japan. Tel./Fax: +81.24.547.1307 E-mail: toyamade@fmu.ac.jp

Citation: Yamamoto T & Takenoshita H (2015) Efficacy of cone-beam computed tomography for the diagnosis of external dental fistula. Dermatol Clin Res, 1(2): 31-33

Copyright: ©2015 Yamamoto T & Takenoshita H. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Dermatology Clinics & Research, 1(2): 31-33

diagnosis of external dental fistula. In this report, we show a case of external dental fistula, in which ordinal X-ray beam did not detect any abnormalities, such as apical infection, residual bone, radicular pulp, and fistula. However, cone-

beam CT demonstrated the presence of small sequestrum, which was the cause of the development of nodular lesions in this case.



Figure 2. Histopathology showing dense infiltration of inflammatory cells



Figure 3. Horizontal plane of cone-beam CT reveals a small piece of sequestrum (arrow)

Cone-beam CT scan is a cross-sectional, radiological imaging system for maxilla-facial skeleton. This technique

has overcome many of the limitations of conventional radiography, and is now widely used in dental practice [2]. It should be reminded that orthopantomography is not always

Dermatology Clinics & Research, 1(2): 31-33

useful for the diagnosis of external dental fistula. In particular, X-ray beam permeability is insufficient in case of the tiny lesions of the root apex. We dermatologists should also be aware of the useful imaging tool of cone- beam CT for the diagnosis of external dental fistula.

REFERENCES

1. Wilson SW, Ward DJ, Burns A (2001) Dental infections masquerading as skin lesions. Br J Plast Surg 54: 358-360. PMID: 11355994

2. Patel S, Kanagasingam S, Mannocci F (2010) Cone beam computed tomography (CBCT) in endodontics. Dent Update 37: 373-379. PMID: 20929151