



Case illustrated

Third molar pericoronitis in neutropenia

Fumiya Kano*, Norihisa Ichimura, Yukiko Wakayama, Kazuto Okabe, Hiroki Sakakura, Hideharu Hibi

Department of Oral and Maxillofacial Surgery of Nagoya University Graduate School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan

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ABSTRACT

We report the case of a 40 year-old woman who presented third molar pericoronitis in neutropenia. she had undergone extraction of the right third mandibular molar. This may have been due to an infection in the extraction socket or part of the crown. There was no inflammation seen after transplant of umbilical cord blood.

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A 40-year-old woman with Philadelphia chromosome-positive acute lymphoblastic leukemia (ALL) undergoing therapy with methotrexate, cytarabine, and dasatinib presented with swelling and warmth of the right cheek and right cervical lymphadenopathy. Transplant of umbilical cord blood for the treatment of ALL was planned. More than 1 month earlier, she had undergone extraction of the right third mandibular molar. On physical examination, she was febrile (temperature of 98.6 °F), and her pulse rate was 82 beats/min, blood pressure 104/62 mm Hg, respirations 16 breaths/min, and oxygen saturation 98% on room air. No pus discharge was detected on examination of the extraction socket. No other oral lesions were noted.

Laboratory testing revealed a white blood cell count was of $0.4 \times 10^3/\mu\text{L}$, hemoglobin of 8.5 g/dL, and platelet counts were $24 \times 10^3/\mu\text{L}$. Her C-reactive protein was 3.31 mg/dL. The blood urea nitrogen was 11 mg/dL with a serum creatinine of 0.55 mg/dL. The absolute neutrophil count was less than 100 and this was day 10 of severe neutropenia. Computed tomography revealed a radiopaque finding (2×1 mm in size) that seemed to be part of the crown on the mesial side of the extraction socket (Fig. 1). In addition, loss of continuity was noted in the cortical bone of the lingual surface. Blood cultures were negative. She was administered cefepime; however, the swelling and warmth did not improve, remain afebrile for the entire course. Subsequently, she was administered meropenem. After her absolute neutrophil count increased to 100, a purulent discharge from the extraction socket was noted. Three days later, the swelling and pus drainage improved. After an

additional 2 weeks there was no sign of inflammation and she underwent cord blood transplantation. There was no inflammation seen after engraftment.

Chemotherapy for hematological malignancies results in myelosuppression and increases susceptibility to severe infections. Chemotherapy often has adverse reactions, a number of which affect the facial area [1]. All odontogenic foci that are potential sources of systemic infection should be eliminated by prophylactic dental treatment before start of chemotherapy [2,3]. In the present case, the patient acquired an oral infection in spite of the exclusion of odontogenic foci. This may have been due to an infection in the extraction socket or part of the crown which did not exhibit purulence until the absolute neutrophil count began to rise. It is also reported that in patients with neutropenia the oral flora may differ from the normal oral flora [4]. It is necessary to select suitable antimicrobials for empirical treatment even in afebrile patients with signs of possible localized infection. As in this cases, focal purulence may not occur until the absolute neutrophil count begins to rise.

Authorship contributions

Category 1

Conception and design of study: F. Kano, N. Ichimura, K. Okabe; acquisition of data: F. Kano, Y. Wakayama, H. Sakakura; analysis and/or interpretation of data: F. Kano, H. Hibi.

Category 2

Drafting the manuscript: F. Kano, N. Ichimura, Y. Wakayama; revising the manuscript critically for important intellectual content; K. Okabe, H. Sakakura, H. Hibi.

Category 3

* Corresponding author.

E-mail address: adjmptw-02380509@med.nagoya-u.ac.jp (K. Fumiya).

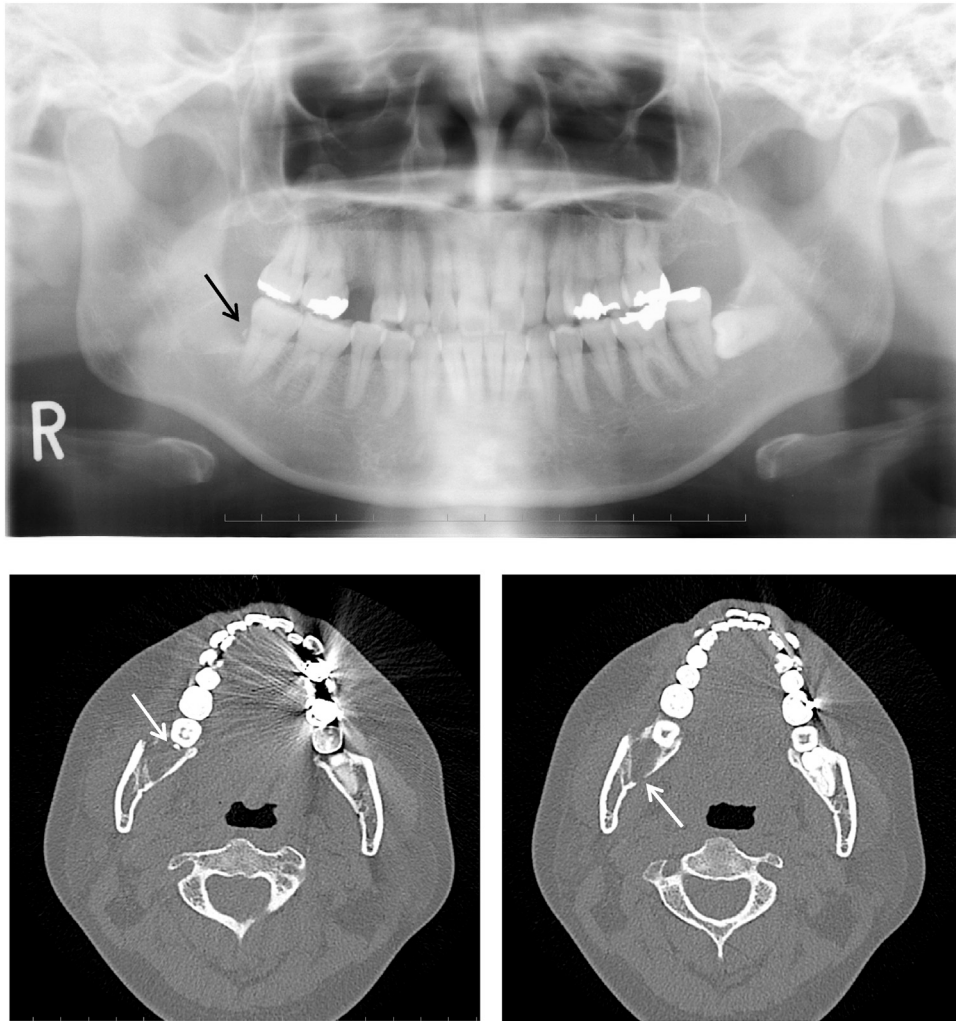


Fig. 1. The radiopaque finding was seemed to be part of the crown on the mesial side of the extraction socket, and loss of continuity was noted in the cortical bone of the lingual surface.

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Conflict of Interest

None of the authors has any financial interest to disclose or conflict of interest to declare.

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