

# A Comparison of Antimicrobial Prophylaxis Agents and Surgical Site Infection among Cases of Impacted Mandibular Third Molar Tooth Extraction in Fukuoka University Hospital Department of Oral and Maxillofacial Surgery: Transition Following the Issuance of Guidelines

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## **Abstract**

In 2016, the “Guidelines for optimization Use of Antibacterial Agents to Prevent Postoperative Infection” were published. As oral surgery is a source of endogenous infection, the use of antimicrobial prophylaxis (AMP) needs to be optimized. In this retrospective cohort study, we evaluated the rates of surgical site infection (SSI) among patients given AMP after impacted mandibular third molar teeth extraction in the outpatient setting and during hospitalization at Fukuoka University Hospital from April 2016 to March 2020. Since 2017, we have prescribed AMP following the abovementioned guidelines, then following completely in 2019. Until changing, among outpatients, third-generation cephem was used in about 90% of cases, in 2019 reduced till 1.2%, but change promoted the use of penicillin in about 98% of cases. Among hospitalized patients, cephazolin was used in about 98% of cases until changing, but change promoted the use of cefmetazole and ampicillin more than 95%. In the present study, the incidence of SSI was 1.2% among outpatients and 3.7% among hospitalized patients, which were similar to the rates in previous reports. In addition, there was no significant difference in the incidence of SSI before or after the change in AMP between outpatients and inpatients. It was significant correctness of optimization use of AMP and to prevent infection, at impacted mandibular third molar teeth extraction.

**Key words:** extraction, surgical site infection, antimicrobial, antimicrobial prophylaxis, retrospective study