

Antibiotic Prophylaxis Habits in Oral Implant Surgery in the Netherlands: A Cross-Sectional Survey

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Abstract : Background: Oral implants are a routine treatment to replace lost teeth. Although they have a high rate of success, implant failures do occur. Perioperative antibiotics have been suggested to prevent postoperative infections and dental implant failures, but they remain a controversial treatment among healthy patients. The objective of this study was to determine whether antibiotic prophylaxis is a common treatment in the Netherlands among general dentists, maxillofacial-surgeons, periodontists and implantologists in conjunction with oral implant surgery among healthy patients and to assess the nature of antibiotics prescriptions in order to evaluate whether any consensus has been reached and the current recommendations are being followed. Methodology: Observational cross-sectional study based on a web-survey reported according to the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines. A validated questionnaire, developed by Deeb et al. (2015), was translated and slightly adjusted to circumstances in the Netherlands. It was used with the explicit permission of the authors. This questionnaire contained both close-ended and some open-ended questions in relation to the following topics: demographics, qualification, antibiotic type, prescription-duration and dosage. An email was sent February 2018 to a sample of 600 general dentists and all 302 oral implantologists, periodontists and maxillofacial surgeons who were recognized by the Dutch Association of Oral Implantology (NVOI) as oral health care providers placing oral implants. The email included a brief introduction about the study objectives and a link to the web questionnaire, which could be filled in anonymously. Overall, 902 questionnaires were sent. However, 29 questionnaires were not correctly received due to an incorrect email address. So a total number of 873 professionals were reached. Collected data were analyzed using SPSS (IBM Corp., released 2012, Armonk, NY). Results: The questionnaire was sent back by a total number of 218 participants (response rate=24.2%), 45 female (20.8%) and 171 male (79.2%). Two respondents were excluded from the study group because they were not currently working as oral health providers. Overall 151 (69.9%) placed oral implants on regular basis. Approximately 79 (52.7%) of these participants prescribed antibiotics only in determined situations, 66 (44.0%) prescribed antibiotics always and 5 dentists (3.3%) did not prescribe antibiotics at all when placing oral implants. Overall, 83 participants who prescribed antibiotics, did so both pre- and postoperatively (58.5%), 12 exclusively postoperative (8.5%), and 47 followed an exclusive preoperative regime (33.1%). A single dose of 2,000 mg amoxicillin orally 1-hour prior treatment was the most prescribed preoperative regimen. The most frequent prescribed postoperative regimen was 500 mg amoxicillin three times daily for 7 days after surgery. On average, oral health professionals prescribed 6,923 mg antibiotics in conjunction with oral implant surgery, varying from 500 to 14,600 mg. Conclusions: Antibiotic prophylaxis in conjunction with oral implant surgery is prescribed in the Netherlands on a rather large scale. Dutch professionals might prescribe antibiotics more cautiously than in other countries and there seems to be a lower range on the different antibiotic types and regimens being prescribed. Anyway, recommendations based on last-published evidence are frequently not being followed.

Keywords : clinical decision making, infection control, antibiotic prophylaxis, dental implants

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