



Document heading doi: 10.12980/APJTB.4.2014APJTB-2014-0274 © 2014 by the Asian Pacific Journal of Tropical Biomedicine. All rights reserved.

Final thoughts on antibiotic use: wake up call for the oral health care professionals

Ramasamy Chidambaram*

Faculty of Dentistry, Department of Prosthodontics, AIMST University, Semeling 08100, Jalan Bedong, Kedah Darul Aman, Malaysia

ARTICLE INFO

Article history:

Received 26 May 2014

Received in revised form 29 May 2014

Accepted 10 Jun 2014

Available online 28 Jun 2014

Keywords:

Antibiotic prophylaxis

Dental practitioners

Dental practice

Microbial resistance

ABSTRACT

Antibiotic treatment is a form of pharmacotherapy with the specialty of rendering both etiological and curative action. Dentists traditionally administer antibiotics, to restrain contagions and to handle the prevailing dental ailments. Penicillins have been the drug of choice to be opted by the dental practitioners in their routine dental practice. Prudent application of antibiotics in concoction with surgical therapy is the most pertinent mode to cure odontogenic contagions. Considerable prescriptions of antibiotics are ascribed especially in cases which induce bleeding in the oral cavity. Regardless of the obvious indications, perplexity prevails between the oral health care professional's pertaining to the administration of antibiotics in coalition with dental maneuvers. Dreadful ailments have been cured after the incipience of antibiotics in 1929. Besides it also leads to cumbersome consequences by virtue of its misuse. Irrational usage of antibiotic therapy leads to false positive effects on both health and financial grounds and poses a threat to the microbial resistance. The present communication aims to delineate the absolute indications, consequences of abuse and imperative factors to be considered while prescribing antibiotics in routine dental practice.

1. Introduction

The breakthrough of antibiotics came to existence in 1929 when the Scottish bacteriologist Alexander Fleming, documented on the bactericidal activity of specimens of a penicillium genre^[1]. Antibiotics are the biggest endowment of the 20th aeon to health care industry. These medications are imperative in the sustentation and prophylaxis of contagion in patients at liability of confronting microbial ailment. Majority of the orofacial contagions emanate from the odontogenic contagions and thereby, administration of antibiotics has eventually metamorphosed as a cardinal approach in everyday dental practice. Antibiotics are among the

most frequently prescribed drugs by dentists, who can therefore be said to pronominally contribute to the global consumption of antibiotics. The prime utilization of antibiotics is insinuated in dental practice when the clinical circumstance presents objective evidence. Regardless of the obvious indications, perplexity prevails between the oral health care professionals pertaining to the administration of antibiotics in coalition with dental maneuvers^[1]. Many natural health proficient insure that dentistry is the medical discipline responsible for some of the antibiotics abuse. Dental practitioners ought to be alarmed of the cause reliant to the antibiotic abuse and ameliorate their dexterity in antibiotic prescription. The present communication aims to delineate the absolute indications of antibiotics, dialectics and consequences of misuse and the imperative factors to be contemplated while prescribing antibiotics in heyday dental practice.

*Corresponding author: Dr. Ramasamy Chidambaram, Lecturer, Faculty of Dentistry, Department of Prosthodontics, AIMST University, Semeling 08100, Jalan Bedong, Kedah Darul Aman, Malaysia.

Tel: 016 – 4724370

E-mail: dr.ramasamyc@gmail.com

Foundation Project: Supported by AIMST University Research Grant Scheme.

2. Absolute indications of antibiotics

Antibiotic treatment is a form of pharmacotherapy with the specialty of rendering both etiological and curative action. The fundamental principle of antibiotic prophylaxis is to select the appropriate antibiotic, determine the dosage, route of administration and prescribe them for the required duration.

2.1. Antibiotics in endodontic maneuvers

Dentists prescribe medications for the management of multifarious oral conditions, specifically orofacial infections[2]. Administration of antibiotics rationally in concoction with local treatment is the most pertinent mode to cure odontogenic contagions. The endodontic dentistry is considered to acquire abundant medications when compared with its other disciplines[3]. Orofacial contagions do benefit aftermath of the supportive administration of antibiotics; meanwhile these medicaments should also serve as adjutant for explicit maneuvers. Pulpitis and periapical abscess are the accepted clinical perspectives which demand the need of systemic antibiotics[4]. Oral clinicians are urged to prescribe antibiotics without resolving the local factor, whereas many of the endodontic infections do not require the service, if the dialectic factor involved in the contagion is eradicated. The prevailing situation strictly vindicates the utilization of antibiotics after the root canal procedures as unhealthy practice and generates infinitesimal response post-operatively[5,6]. Replete obturation and closure of the pulp space from the oral environment averts the administration of antibiotics. Clinical scenarios where the patients present with an intraoral swelling, due to acute apical abscess do not desire the regimen of systemic antibiotics. Considering the medical status of the patient and if the patient exhibits an extra oral swelling, the antibiotics can be recommended after the debridement of the pulp space with calcium hydroxide. When the pulpal inflammation is confined, the excision of the tissue is acknowledged as the treatment of choice rather than prescribing antibiotics. Most of the dental infections entail a conservative and operative approach towards the management of pulpal and periodontal inflammations like root canal therapy, restorations and removal of the tooth if the prognosis is unfavorable.

2.2. Antibiotics in oral surgical procedures and infective endocarditis

Infective endocarditis is a critical contagion transpiring on the endothelial shroud of the heart, particularly at the valves. Dental procedures such as tooth extraction, periodontal surgery, scaling, rubber dam placement, and root canal therapy can induce bacteremia, but these maneuvers are trigger factors for few cases of endocarditis. Antibiotic aid is strongly imputed in patients with high risk of infective endocarditis, where it's administered as prophylactic antibiotics[7]. The American Health Association authenticates that all dental manoeuvres that comprehend operation of gingival tissue or the periapical region of teeth or breaching of the oral mucosa deserve antibiotic prophylaxis[8]. Oral health care professionals advise medications for clinical situations pertaining to endodontic, oral surgical, and periodontal conditions. Considerable prescriptions of antibiotics are ascribed especially in cases which induce bleeding in the oral cavity. The clinical practice guidelines for antibiotic prophylaxis acknowledge that oral surgical procedures like orthognathic surgery, major preprosthetic surgery and extensive tumor surgery demand the need of an antibiotic[9]. Selected antibiotic should be persuasive over the microbial flora which is basically found in the oral cavity, like *Staphylococcus*, *Streptococcus*, enteric and anaerobic bacteria. Penicillin and its derivatives gratify the above requirements and provide a curative action by eliminating the bacterial[10].

As a matter of course, removal of tooth is a routine surgical procedure carried out in the dental practice. Antibiotics are recommended to medicate the major oral surgical procedures, but the former maneuver implicates a necessity only in vulnerable patients. Furthermore, researches admit that the plausible infection rate succeeding third molar elicitation is considerably meager when compared with the other dentition[11,12]. Traditional applications of antibiotics fail to ameliorate the infection rate following the extraction of third molar. Conjointly, couple of studies do ratify the former statement and deny its usance preceding last molar evulsion[13,14]. Poeschl *et al.*, reported that the prevalence of surgical infection was negligible, aftermath on the antibiotic prophylaxis in minor oral surgical procedures[15,16]. On the contrary, literature also mutually supports the service of antibiotics following impacted molars[17–22]. Martinez *et al.*, documented the incorporation of postoperative antibiotics (amoxicillin/clavulanate) as successful therapy in ostetotomy cases. The researchers do justify that the prophylaxis is mandatory for dentoalveolar surgery only in complicated circumstances,

Download English Version:

<https://daneshyari.com/en/article/2033242>

Download Persian Version:

<https://daneshyari.com/article/2033242>

[Daneshyari.com](https://daneshyari.com)