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Dental antibiotic prophylaxis guidelines 2021

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The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Source: Debbie Goff Pharm D, Julie E Mangino MD, the Ohio State University Wexner Medical Center Don't Use Clindamycin The American Dental Association and American Heart Association no longer recommend the antibiotic clindamycin for dental prophylaxis or therapeutic use. It has a black box warning for C. difficile diarrhea because the risk is high and there have been dental lawsuits. What Should You Use Instead? Your options include: 1. Give azithromycin 500 mg PO or IV one time (prophylaxis), then 250 mg once daily for four days (therapeutic). Don't give for more than five days because five days' dosage has the effectiveness of 10 days' dosage. 2. Prescribe doxycycline 100 mg PO or IV one time (prophylaxis), then 100 mg BID for five days (therapeutic). 3. Give cephalexin 2 grams PO one time for prophylaxis (but not if there's a history of anaphylaxis or hives). Use shorter courses (three to five days), not seven to 10 days. No current dental data supports that seven to 10 days gives better outcomes. Every additional day increases the risk of antibiotic resistance and C. difficile diarrhea. Prescriptions for more than five days should be the exception, not the rule. Should You Prescribe Antibiotics for Pain and Swelling? The JADA Nov 2019 ADA guideline on antibiotic use for pain and swelling says that: If patients have pain only, don't prescribe antibiotics. If they have pain and swelling, prescribe amoxicillin 500 mg TID for three to five days. Reevaluate in three days with a phone call. Instruct patients to stop using antibiotics 24 hours after their symptoms resolve. "Coastal Periodontics didn't just treat me as a client fixing his gum disease but they also treat me like part of the family. When Dr Tredicnick works on you, there's no anxiety, she always make sure you're feeling good. In 3 words: Caring, Professional, Excellent" – Jeffrey Bendit Amoxicillin 500 mg TID or 875 mg BID is the first line antibiotic for all dental procedures. It is better tolerated than penicillin and BID/TID dosing has better compliance than QID. If amoxicillin fails, add metronidazole 500 mg TID or switch to Augmentin (amoxicillin/clavulanate) 875 mg BID. Other Dental Antibiotic Prophylaxis Dosage Recommendations Patients should never take metronidazole (Flagyl) 500 mg TID alone. It only offers anaerobic coverage and no oral strep coverage. It can cause peripheral neuropathy, likely related to duration. Penicillin-allergic patients can take azithromycin 500 mg day one, then 250 mg daily for four days (Zpac) or 500 mg daily for three days. Do not prescribe for more than five days. It can cause arrhythmia, which is potentially fatal. Cephalexin (Keflex) 500 mg q eight hours is not a first-line antibiotic unless the patient has a penicillin (non-anaphylaxis or hives) allergy. Do not use ciprofloxacin, levofloxacin, moxifloxacin because of four black box warnings for tendon ruptures/tendinitis, peripheral neuropathy, CNS effects and exacerbation of myasthenia gravis, and aortic aneurysm/dissection. Antibiotic Prophylaxis for Patients with Infective Endocarditis (IE) Patients with a previous episode of IE or who have prosthetic valves/materials must receive antibiotic prophylaxis. Certain patients with congenital heart disease and/or cardiac transplant recipients likely need antibiotic prophylaxis. Discuss this with the cardiologist. Review your screening forms to make sure you ask whether your patient has a history of IE. A recent lawsuit stated that on a patient's medical history form "next to heart disease, she checked yes and wrote in 'IE.'" Dental staff didn't recognize the term IE and cleaned her teeth without antibiotic prophylaxis. She developed IE and she sued the dentist. Antibiotic Prophylaxis for Dental Patients with Total Joint Replacements The 2020 ADA/AAOS guide states after one year, prophylaxis is rarely needed. Less than 10% of prosthetic joint infections are caused by oral strep species. The American Academy of Orthopedic Surgeons provides a care decision-making tree to determine whether a patient needs prophylactic antibiotics. Many orthopedic surgeons still recommend lifelong antibiotic prophylaxis before dental work, and this is not correct. Your responsibility is to inform your patients of the updated ADA/AAOS information. The ADA advises that the orthopedic surgeon should write the prescription. Contact the Coastal Periodontics Team Have questions about antibiotic prophylaxis recommendations? Talk to the Coastal team. We're here to provide up-to-date information to keep our patients healthy! Dental implants can change your life. Explore your options for dental implants with Coastal Periodontics' state-of-the-art technology. Get a complete exam, X-rays and 3D CT scan all for $250. We'll create a personalized care plan for the treatment that is best for you, whether the revolutionary Pinhole Technique for gum recession, laser assisted treatment for gum disease, and a variety of implant procedures to replace missing teeth or support dentures. Plus, you're supporting your community – we'll donate a portion of your fee goes to the charity of your choice. To schedule your evaluation or to make an appointment, contact us online or call us at 979-258-3491 today. Antimicrobial use within the realm of dentistry has received growing attention with regards to both therapeutic and prophylactic therapy, as evidenced by recently updated ADA antibiotic stewardship recommendations.1 General and specialty dentists are the third highest outpatient prescribers for antibiotics, and data from 2017 to 2019 suggest 35% to 80% of these antibiotic prescriptions are either not indicated or suboptimal.2Following guidance from the American Academy of Orthopedic Surgeons (AAOS) and the American Heart Association (AHA), the ADA has established recommendations in the past for antimicrobial prophylaxis prior to dental procedures in patients with prosthetic joint implants and patients thought to be at increased risk for developing endocarditis.1 Additionally, the ADA developed guidelines for the management of dental pain and intra-oral swelling that largely recommended against the use of antibiotics for the treatment of infections without systemic involvement, favoring dental intervention in immunocompetent patients.2The ADA provided updated recommendations for antimicrobial prophylaxis prior to dental procedures in May of 2021.3 These recommendations highlight that there is a relatively small subset of patients that are indicated to receive antibiotic prophylaxis when compared to older versions of guidelines published by AAOS and AHA (Table 1).3 The AHA's 2021 scientific update reinforced that antibiotic prophylaxis is only indicated for patients at the highest risk of infective endocarditis, citing that risks of adverse effects and development of drug-resistance likely outweighs benefits of prophylaxis in many patients that were historically included in previous guidelines.3 Additionally, these recommendations apply only to dental procedures in which there is manipulation of the gingival tissue or the periapical region of teeth, or perforation of the oral mucosa.3Table 1 – Indications for Antimicrobial Prophylaxis4For patients with prosthetic joint implants, antibiotic prophylaxis prior to dental procedures is typically not warranted and should only be considered following consultation with the patient and the orthopedic surgeon.3AHA recommends amoxicillin for patients that qualify for antibiotic prophylaxis and who can tolerate oral medications (Table 2).4 The ADA no longer recommends clindamycin for patients with a history of penicillin allergies due to more frequent and serious adverse effects associated with clindamycin compared to other prophylactic options, including C. difficile infections.3 From 2009 to 2015, the Minnesota Health Department found that 15% of patients prescribed an antibiotic with subsequent community-acquired C. difficile infection were treated by their dentist.5 Patients receiving antibiotics from their dentist were significantly more likely to have received clindamycin when compared to other providers (50% versus 10%).5 For patients with penicillin allergies, first- or second-generation cephalosporins, azithromycin, clarithromycin, or doxycycline are now the suggested alternatives.3 If patients are already receiving antibiotics for another indication and are candidates for prophylaxis, it is advised that the dentist select a different class of antibiotics than the one the patient is currently taking.3Table 2 Antimicrobial Prophylaxis Treatment Options4For other patient populations, the ADA cites that there is no general guidance to promote the use of prophylactic antibiotics prior to a dental procedure except for individuals with extenuating circumstances, and where the prescription is written by the patient's surgeon or treating physician.3Brandon Garcia, PharmD, PGY2, is an infectious diseases pharmacy resident at the Philadelphia College of Pharmacy in Philadelphia, Pa.Madeline King, PharmD, BCIDP, is an infectious diseases clinical pharmacist and assistant professor of clinical pharmacy at Philadelphia College of Pharmacy in Philadelphia, Pa.References1. American Dental Association. Oral health topics: Antibiotic stewardship. American Dental Association website. September 29, 2020. Accessed July 20, 2021. member-center/oral-health-topics/antibiotic-stewardship.2. Lockhart PB, Tampi MP, Abt E, et al. Evidence-based clinical practice guideline on antibiotic use for the urgent management of pulpal- and periapical-related dental pain and intraoral swelling: A report from the American Dental Association. J Am Dent Assoc. 2019;150(11):906-21.e12.3. American Dental Association. Oral health topics: Antibiotic prophylaxis prior to dental procedures. American Dental Association website. September 29, 2020. Accessed July 20, 2021. member-center/oral-health-topics/antibiotic-stewardship.4. Wilson WR, Gewitz M, Lockhart PB, et al. Prevention of Viridans Group Streptococcal Infective Endocarditis: A Scientific Statement From the American Heart Association. Circulation. 2021:Cir0000000000000969.5. Bye M, Whitten T, Holzbauer S. Antibiotic Prescribing for Dental Procedures in Community-Associated Clostridium difficile cases, Minnesota, 2009–2015. Open Forum Infect Dis. 2017;4(Suppl 1):S1. Published 2017 Oct 4. Home » Misc » Prophylactic antibiotics prior to dental procedures With input from the ADA, the American Heart Association (AHA) released guidelines for the prevention of infective endocarditis in 2007,7 which were approved by the CSA as they relate to dentistry in 2008.8 These guidelines were updated by a 2021 scientific statement by the AHA that recommended no changes to the 2007 guideline recommendations. 9 The AHA continues to recommend infective endocarditis prophylaxis "only for categories of patients at highest risk for adverse outcome while emphasizing the critical role of good oral health and regular access to dental care for all."9 In 2017, the AHA and American College of Cardiology (ACC) published a focused update 10 to their 2014 guidelines on the management of valvular heart disease that also reinforced the previous recommendations.These current guidelines support infective endocarditis premedication for a relatively small subset of patients. This is based on a review of scientific evidence, which showed that the risk of adverse reactions to antibiotics generally outweigh the benefits of prophylaxis for many patients who would have been considered eligible for prophylaxis in previous versions of the guidelines. Concern about the development of drug-resistant bacteria also was a factor.In addition, the data are mixed as to whether prophylactic antibiotics taken before a dental procedure prevent infective endocarditis. The guidelines note that people who are at risk for infective endocarditis are regularly exposed to oral bacteria during basic daily activities such as brushing or flossing. The valvular disease management guidelines10 recommend that persons at risk of developing bacterial infective endocarditis (see "Patient Selection") establish and maintain the best possible oral health to reduce potential sources of bacterial seeding. They state, "Optimal oral health is maintained through regular professional dental care and the use of appropriate dental products, such as manual, powered, and ultrasonic toothbrushes; dental floss; and other plaque-removal devices. "Patient Selection The current infective endocarditis/valvular heart disease guidelines7, 8, 10 state that use of preventive antibiotics before certain dental procedures is reasonable for patients with:prosthetic cardiac valves, including transcatheter-implanted prostheses and homografts; prosthetic material used for cardiac valve repair, such as annuloplasty rings and chords; a history of infective endocarditis; a cardiac transplanta with valve regurgitation due to a structurally abnormal valve; the following congenital (present from birth) heart disease:b unrepaired cyanotic congenital heart disease, including palliative shunts and conduits any repaired congenital heart defect with residual shunts or valvular regurgitation at the site of or adjacent to the site of a prosthetic patch or a prosthetic device a According to limited data, infective endocarditis appears to be more common in heart transplant recipients than in the general population; the risk of infective endocarditis is highest in the first 6 months after transplant because of endothelial disruption, high-intensity immunosuppressive therapy, frequent central venous catheter access, and frequent endomyocardial biopsies. 9b Except for the conditions listed above, antibiotic prophylaxis is no longer recommended for any other form of congenital heart disease.Pediatric PatientsCongenital heart disease can indicate that prescription of prophylactic antibiotics may be appropriate for children. It is important to note, however, that when antibiotic prophylaxis is called for due to congenital heart concerns, they should only be considered when the patient has: Cyanotic congenital heart disease (birth defects with oxygen levels lower than normal), that has not been fully repaired, including children who have had a surgical shunts and conduits. A congenital heart defect that's been completely repaired with prosthetic material or a device for the first six months after the repair procedure. Repaired congenital heart disease with residual defects, such as persisting leaks or abnormal flow at or adjacent to a prosthetic patch or prosthetic device. Antibiotic prophylaxis is not recommended for any other form of congenital heart disease.Beyond identifying the specific patient population for whom antibiotic prophylaxis is appropriate, special consideration should be given to the antibiotic dose prescribed to children, as it will vary according to the child's weight. Weight-based regimens for children are outlined in Table 2 of the 2007 American Heart Association guidelines and Table 5 of the 2021 AHA scientific statement.7-9 As with any medication, check with the primary caregiver to determine whether the child has an allergy to antibiotics or other antibiotic-related concerns before prescribing.Dental ProceduresProphylaxis is recommended for the patients identified in the previous section for all dental procedures that involve manipulation of gingival tissue or the periapical region of the teeth, or perforation of the oral mucosa. Additional Considerations About Infective Endocarditis Antibiotic Prophylaxis (When Indicated)The 2021 AHA scientific statement on prevention of infective endocarditis no longer recommends use of clindamycin as an oral or parenteral alternative to amoxicillin or ampicillin in individuals with allergies to these drugs because clindamycin "may cause more frequent and severe reactions than other antibiotics used for [antibiotic prophylaxis]" (including C. difficile infection).9 The AHA recommends that in individuals who are allergic to penicillin or ampicillin and who can take oral medication, cephalexin (or other first- or second-generation cephalosporins), azithromycin, clarithromycin, or doxycycline be used as alternatives.9 In individuals who are penicillin or ampicillin allergic and who cannot take oral medication, the AHA recommends cefazolin or ceftriaxone as alternatives.9 However, the AHA also recommends that cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticaria with penicillin or ampicillin.9 The current medication regimens recommended (when indicated) are listed in Table 5 of the 2021 AHA scientific statement. Sometimes, patients forget to premedicate before their appointments. The recommendation is that for patients with an indication for antibiotic prophylaxis, the antibiotic be given before the procedure. This is important because it allows the antibiotic to reach adequate blood levels. However, the guidelines to prevent infective endocarditis7, 8 state, "If the dosage of antibiotic is inadvertently not administered before the procedure, the dosage may be administered up to 2 hours after the procedure." If a patient with an indication for prophylaxis who appropriately received antibiotic premedication prior to a dental procedure one day and who is then scheduled the following day for a dental procedure also warranting premedication (e.g., dental prophylaxis), the antibiotic prophylaxis regimen should be repeated prior to the second appointment. Because of the nature of the pharmacokinetics of an antibiotic prophylaxis regimen, a single loading dose is given in order to cover the period of potential bacteremia produced by a single procedure.11-13Another concern that dentists have expressed involves patients who require prophylaxis but are already taking antibiotics for another condition. In these cases, the AHA guidelines and 2021 AHA scientific statement for infective endocarditis7, 9 recommend that the dentist select an antibiotic from a different class than the one the patient is already taking. For example, if the patient is taking amoxicillin, the dentist should select azithromycin or clarithromycin for prophylaxis.Other patient groups also may merit special consideration, which is discussed more fully in the AHA guidelines.In 2015, The Lancet published a study out of the United Kingdom that reported a correlation between institution of more limited antibiotic prophylaxis guidelines by the National Institute for Health and Clinical Evidence (NICE) in 2008 and an increase in cases of infective endocarditis.13 Because of the retrospective and observational nature of the study, the authors acknowledged that their "data do not establish a causal association." At this time, the ADA recommends that dentists continue to use the AHA/ACC guidelines discussed above. Dental professionals should periodically visit the ADA website for updates on this issue.New Recommendations for Antibiotic Prophylaxis Prior to Dental ProceduresAntimicrobial use within the realm of dentistry has received growing attention with regards to both therapeutic and prophylactic therapy, as evidenced by recently updated ADA antibiotic stewardship recommendations. 1 General and specialty dentists are the third highest outpatient prescribers for antibiotics, and data from 2017 to 2019 suggest 35% to 80% of these antibiotic prescriptions are either not indicated or suboptimal.2Following guidance from the American Academy of Orthopedic Surgeons (AAOS) and the American Heart Association (AHA), the ADA has established recommendations in the past for antimicrobial prophylaxis prior to dental procedures in patients with prosthetic joint implants and patients thought to be at increased risk for developing endocarditis.1 Additionally, the ADA developed guidelines for the management of dental pain and intra-oral swelling that largely recommended against the use of antibiotics for the treatment of infections without systemic involvement, favoring dental intervention in immunocompetent patients.2The ADA provided updated recommendations for antimicrobial prophylaxis prior to dental procedures in May of 2021. 3 These recommendations highlight that there is a relatively small subset of patients that are indicated to receive antibiotic prophylaxis when compared to older versions of guidelines published by AAOS and AHA (Table 1).3 The AHA's 2021 scientific update reinforced that antibiotic prophylaxis is only indicated for patients at the highest risk of infective endocarditis, citing that risks of adverse effects and development of drug-resistance likely outweighs benefits of prophylaxis in many patients that were historically included in previous guidelines.3 Additionally, these recommendations apply only to dental procedures in which there is manipulation of the gingival tissue or the periapical region of teeth, or perforation of the oral mucosa.3Table 1 – Indications for Antimicrobial Prophylaxis4For patients with prosthetic joint implants, antibiotic prophylaxis prior to dental procedures is typically not warranted and should only be considered following consultation with the patient and the orthopedic surgeon. 3AHA recommends amoxicillin for patients that qualify for antibiotic prophylaxis and who can tolerate oral medications (Table 2).4 The ADA no longer recommends clindamycin for patients with a history of penicillin allergies due to more frequent and serious adverse effects associated with clindamycin compared to other prophylactic options, including C. difficile infections.3 From 2009 to 2015, the Minnesota Health Department found that 15% of patients prescribed an antibiotic with subsequent community-acquired C. difficile infection were treated by their dentist.5 Patients receiving antibiotics from their dentist were significantly more likely to have received clindamycin when compared to other providers (50% versus 10%).5 For patients with penicillin allergies, first- or second-generation cephalosporins, azithromycin, clarithromycin, or doxycycline are now the suggested alternatives.3 If patients are already receiving antibiotics for another indication and are candidates for prophylaxis, it is advised that the dentist select a different class of antibiotics than the one the patient is currently taking. 3Table 2 Antimicrobial Prophylaxis Treatment Options4For other patient populations, the ADA cites that there is no general guidance to promote the use of prophylactic antibiotics prior to a dental procedure except for individuals with extenuating circumstances, and where the prescription is written by the patient's surgeon or treating physician.3Brandon Garcia, PharmD, PGY2, is an infectious diseases pharmacy resident at the Philadelphia College of Pharmacy in Philadelphia, Pa.Madeline King, PharmD, BCIDP, is an infectious diseases clinical pharmacist and assistant professor of clinical pharmacy at Philadelphia College of Pharmacy in Philadelphia, Pa.References1. American Dental Association. Oral health topics: Antibiotic stewardship. American Dental Association website. September 29, 2020. Accessed July 20, 2021. member-center/oral-health-topics/antibiotic-stewardship. 2. Lockhart PB, Tampi MP, Abt E, et al. Evidence-based clinical practice guideline on antibiotic use for the urgent management of pulpal- and periapical-related dental pain and intraoral swelling: A report from the American Dental Association. J Am Dent Assoc. 2019;150(11):906-21.e12.3. American Dental Association. Oral health topics: Antibiotic prophylaxis prior to dental procedures. American Dental Association website. September 29, 2020. Accessed July 20, 2021. member-center/oral-health-topics/antibiotic-stewardship.4. Wilson WR, Gewitz M, Lockhart PB, et al. Prevention of Viridans Group Streptococcal Infective Endocarditis: A Scientific Statement From the American Heart Association. Circulation. 2021:Cir0000000000000969.5. Bye M, Whitten T, Holzbauer S. Antibiotic Prescribing for Dental Procedures in Community-Associated Clostridium difficile cases, Minnesota, 2009–2015. Open Forum Infect Dis. 2017;4(Suppl 1):S1. Published 2017 Oct 4. Prevention of infective endocarditis 220045, Minsk, st. Semashko, 10 This email address is being protected from spambots. You must have JavaScript enabled to view. Version of the site for the visually visible Healthcare Institution Minsk Clinical Consultative and Diagnostic Center Coll-Center (Registration) +375 17 311 10 19 (10 lines) +375 17 355 94 50 (7 lines) +375 29 238 00 90 (mobile MTS 4 lines) +375 44 550 00 90 (mobile A1 4 lines) Apply online Minsk Clinical Consultative and Diagnostic Center +375 17 355 94 50 (Horizontal) +375 29 238 00 90 (mobile MTS) +375 44 550 00 90 (mobile A1) Book online You are here: Information Articles Prevention of infective endocarditis Infective endocarditis (IE) is a significant risk factor for high morbidity and mortality, therefore, before medical procedures and manipulations, it is necessary to consider the issue of antibiotic prophylaxis for this pathology. The American College of Cardiology (ACC) and the American Heart Association (AHA) have released updated guidelines for the prevention of infective endocarditis in patients with valvular heart disease. Patients at high risk for developing infective endocarditis are defined as individuals with concomitant cardiac pathology associated with the greatest risk of developing an adverse outcome of IE. These include: 1. Patients with prosthetic valves, as well as patients after valve repair using any prosthetic materials. 2. Patients with infective endocarditis (IE) 3. Patients with congenital heart disease: a. Cyanotic congenital heart defects without surgical correction or with residual defects, palliative shunts, conduits. b. Congenital heart defects after complete correction (surgical or endovascular) using prosthetic materials in within 6 months after correction s. The presence of residual defects in the area of prosthetic materials or devices implanted surgically or endovascularly. ANTIBIOTIC PROPHYLAXIS IS NOT RECOMMENDED When performing local anesthesia on non-infected tissues, removing sutures, x-raying a tooth, installing brackets and braces, when losing milk teeth or trauma to the lips and oral mucosa. For bronchoscopy, laryngoscopy, transnasal or endotracheal intubation, gastroscopy, colonoscopy, cystoscopy or transesophageal echocardiography. When performing any intervention on the skin and soft tissues. WARNING In these and all other situations, an antibiotic is prescribed if the disease or procedure (surgery) so requires, but taking into account the activity of the antibiotic against possible pathogens of IE in people with a high risk of developing it ENDOCARDITIS IN THE FOLLOWING INTERVENTIONS A. Dental procedures: Antibiotic prophylaxis can only be discussed for dental procedures requiring manipulation of the gums or periapical region of the teeth or perforation of the oral mucosa. Antibiotic prophylaxis is required if you are undergoing any of the following procedures: - oral incision - tooth extraction - root canal treatment - ligament injection (intraligamentary anesthesia) - removal of dental plaque - periodontal surgery - any other procedure that injures the gingival junction Recommended prophylaxis if a dental procedure is at risk I. No allergy to penicillin or ampicillin Amoxicillin or ampicillin* Single dose 30-60 minutes before the procedure 4 Adults 29 014 po or iv Children 50 mg/kg po or iv II. Allergy to penicillin or ampicillin Clindamycin Single dose 30-60 minutes before procedure Adults 600 mg po or iv Children 20 mg/kg po or iv Cephalosporins should not be used in patients with anaphylaxis, angioedema, or urticaria following administration of penicillin or ampicillin. *Alternatively cephalexin 2 g IV or 50 mg/kg IV for children, cefazolin or ceftriaxone 1 g IV for adults or 50 mg/kg IV for children. B. Manipulations on the respiratory tract. When performing invasive interventions on the respiratory tract to treat established infection (eg, abscess drainage) in patients at high risk for IE, penicillins or cephalosporins active against staphylococci should be included in the antibiotic regimen. In case of intolerance to the latter, vancomycin is prescribed. If the infection is proven or suspected to be caused by methicillin-resistant Staphylococcus aureus, then vancomycin or another antibiotic active against MRSA (MRSA) is given. 90,000 prevention of infectious endocarditis in dental interventions in patients with risk groups Text of a scientific article in the specialty "Clinical Medicine" Dentistry UDC 616.31+ 616.126 - 002 Prevention of infectious endocarditis at of dental interventions in patients risk groups of risk groups O.L. Mishutina GOU VPO SSMA Department of Dentistry FPC and PPS Summary: Indications for antibiotic therapy for the prevention of infective endocarditis are given. The schemes for the use of antibiotics before dental interventions in patients at risk are given. Key words: antibiotics, bacterial endocarditis, dentistry. REGIME OF ANTIBIOTIC PROFILAXIS OF BACTERIAL ENDOCARDITIS FOR MEDICALRISK IN DENTIST PRACTICE O.L. Mishutina Summary: The antibiotics therapy is suggested to be used as prevention of bacterial endocarditis for medical risk patients. Regime of applicable to antibiotic drug of dentist in different clinical cases is described. Key words: antibiotic profilaxis, bacterial endocarditis, dentist practice. Dental interventions, accompanied by damage to the oral mucosa, can become a starting point for the exacerbation of a number of chronic diseases or the emergence of new ones in patients at risk. When planning dental interventions, the task of paramount importance is the prevention of cardiovascular pathology, in particular, infective endocarditis (IE). Unfortunately, despite the improvement of treatment methods, this disease is the cause of death in 20-45% of patients [1,2,3,4,5,7,9,11,12,14]. Infective endocarditis is a disease with primary localization of the pathogen on the heart valves, parietal endocardium (less often on the endothelium of the aorta and large arteries) or intracardiac foreign bodies (artificial valves, pacemaker heads), leading to dysfunction and destruction of the valvular apparatus. IE is considered the result of the following chain of events - the development of non-bacterial thrombotic endocarditis on the surface of the valves, bacteremia, adhesion of bacteria to the damaged endocardium and their proliferation within vegetations. With congenital and acquired heart defects, blood flow turbulence is observed, which predisposes to the deposition of platelets and fibrin on the surface of the endothelium, leading to the formation of non-bacterial thrombotic endocarditis [2, 8]. The adhesion of microorganisms on the vegetation contributes to the further deposition of fibrin and platelets, the rapid multiplication of bacteria on the vegetation (the density reaches up to 10 5 - 1011 colony-forming units per g). According to a number of authors, the incidence in Russia is 46 cases per 1 million population. Men get sick 1.5 - 3 times more often than women. With the highest frequency, IE (80%) develops in the working-age population aged 20–50 years, but recently there has been a trend towards an increase in the number of elderly patients [7]. The causative agents of infective endocarditis are staphylococci and streptococci (80 - 90%), less often - enterococci, gram-negative bacteria of the NASEK group, Bartonella spp., Listeria, Pseudomonas aeruginosa, rickettsia, chlamydia and fungi Candida spp, Aspergillus spp. [1,2,7,8,11,12,13]. The surface of human mucous membranes is inhabited by numerous bacteria, so any damage is accompanied by transient bacteremia. When extracting teeth, endodontic interventions, etc. green streptococci and other microorganisms in the oral cavity penetrate into the blood. Numerous components of the surface of streptococci, staphylococci and enterococci act as adhesins and promote fixation on altered endocardium. It must be remembered that any manipulation that violates the integrity of the mucous membranes can lead to bacteremia, so antibiotic prophylaxis of IE is necessary in patients at risk. Transient bacteremia is often observed not only during dental interventions, but also when brushing teeth, chewing food, using toothpicks, irrigators. For example, when brushing teeth in people with poor oral hygiene, the frequency of bacteremia reaches 20 - 68% [7,10]. In this regard, it is clear that careful oral care in patients with heart disease is of great importance in the prevention of IE. The main prophylactic effect of antibiotics is the suppression of bacterial contamination on valvular thrombi, which allows the immune system to carry out its protective function [1, 2, 3, 7]. It is known that chronic periapical infections, periodontitis, gingivitis serve as a source of hematogenous dissemination of microorganisms with involvement of heart valves in the process. Heart diseases requiring prophylactic antibiotics include: congenital heart defects, conditions after surgical operations for congenital defects), acquired valvular defects (rheumatism, etc.), mitral valve prolapse with severe regurgitation, surgically created systemic (aortocoronary) shunting) or pulmonary ducts (conduits), conditions after heart or lung transplantation, prosthetic heart valves (including biological transplants), history of infective endocarditis, hypertrophic cardiomyopathy [7]. Antibiotic prophylaxis for patients at risk is prescribed before surgery, in which damage to the skin, epithelium or mucous membranes is likely to cause bacteremia. These include all dental procedures that involve damage to the oral mucosa. Antibiotic prophylaxis is indicated for the following manipulations: tooth extraction; dental implantation; endodontic manipulations; intraligamentous local anesthesia; manipulations on the periodontium, including surgery, removal of dental deposits, curettage; prophylactic cleaning of teeth or implant in case of possible bleeding; placement of antibiotic-impregnated materials under the gum. In the past, the main cause of IE was rheumatic heart disease, now their frequency has decreased, today the role of mitral valve prolapse has increased as a factor predisposing to the development of IE. Patients with mitral valve prolapse who have previously had septic endocarditis have a very high risk of developing it. In persons with mitral valve prolapse without regurgitation (reverse blood reflux), antibiotic prophylaxis of septic endocarditis is not carried out [6,7,10]. Antibiotics active against viridescent streptococcus, primarily amoxicillin, are used to prevent IE. The drug is well absorbed in the gastrointestinal tract, which ensures its high and stable serum concentrations, is safe and does not cause serious adverse reactions. Its advantages include low cost, so experts from the American Heart Association recommended that amoxicillin be considered as the drug of choice for antibiotic prophylaxis of IE during dental interventions. Oral cephalosporins I and II generation, clindamycin and macrolide antibiotics (azithromycin and clarithromycin) are alternatives to amoxicillin. If oral administration of an antibiotic is not possible, it is administered intravenously. The prophylactic use of antibiotics with high activity against virulent streptococci in vitro, such as fluoroquinolones and vancomycin, is not justified. The widespread use of these drugs may lead to a further increase in the resistance of streptococci and other microorganisms. IE prophylaxis regimens: in the absence of penicillin allergy, use amoxicillin 2 g (children 50 mg/kg) orally 1 hour before intervention or IV ampicillin 2 g (children 50 mg/kg) 30-60 minutes before intervention; for penicillin allergy, clindamycin 0.6 g (children 20 mg/kg), clarithromycin 0.5 g (children 15 mg/kg) 1 hour before intervention, or cephalexin* 2 g (children 50 mg/kg) orally for 1 hours before the intervention or clindamycin 0.6 g (children 20 mg/kg) IV 30 minutes before the intervention. Cephalosporins should not be used in the presence of serious allergic reactions (anaphylaxis, angioedema or urticaria) to drugs of the penicillin group [7]. Here are two clinical examples of prescribing antibiotics to prevent infective endocarditis. A 23-year-old patient consulted a dental hygienist for professional oral hygiene. The patient suffered from infective endocarditis 3 years ago, allergic history is not burdened. Due to the fact that gingival bleeding and bacteremia are possible during professional oral hygiene, prophylactic antibiotics are recommended. In this clinical case, since there are no allergic reactions to penicillin drugs, it is advisable to prescribe amoxicillin orally (2 g 1 hour before surgery). A mother with a 7-year-old child applied to a pediatric dentist to treat tooth 8.5. The patient has a congenital heart disease, an allergic reaction to benzylpenicillin (Quincke's edema) was previously noted. A year ago, he was operated on at the Moscow Cardiology Center, he was fitted with an artificial mitral valve. The patient, after a dental examination by a pediatric dentist, was diagnosed with: 85 - chronic fibrous pulpitis. Due to the fact that the treatment of tooth 8.5 for chronic fibrous pulpitis may be accompanied by bleeding and bacteremia, and the patient with an artificial heart valve is at high risk of developing septic endocarditis, prophylactic antibiotics are indicated for him. So as the patient has an immediate allergic reaction to benzylpenicillin, he should not be prescribed amoxicillin, as well as cephalexin (a group of beta-lactams). In this case, the drugs of choice are: clindamycin, azithromycin, clarithromycin. To clarify the somatic pathology and the scheme for prescribing an antibiotic, it is advisable to consult a pediatrician. The calculation of the dose in children is carried out per kg of weight: the patient weighs 25 kg. The calculation of the dose of clindamycin is 20 mg / kg, i.e. 20 mg x 25 kg = 500 mg. Calculation of the dose of azithromycin and clarithromycin - 15 mg / kg of weight: 15 mg x 25 kg \u003d 375 mg. In order to prevent infective endocarditis, 1 hour before dental treatment, it is recommended to prescribe to the patient inside 500 mg of clindamycin or 375 mg of azithromycin or clarithromycin. Studies by a number of authors [1, 2, 4, 7] found that the use of antibiotics for prophylactic purposes can significantly reduce the number of postoperative complications, shorten the time of hospitalization of patients and reduce the cost of treatment. REFERENCES 1. Belov B.S. Infective endocarditis. Treatment and prevention // Infection and antimicrobial therapy. 2000. - Volume 2, No. 5. pp. 149 - 154. 2. Demin A.A., V.P. Drobyshev. Diagnosis and treatment of infective endocarditis KMAH - 2000, Volume 2, No. 3. - S. 1 - 19. 3. Diseases, injuries and tumors of the maxillofacial region: a guide to clinical dentistry / ed. Professors A.K. Iordanishvili. - St. Petersburg: SpecLit, 2007. - 494 p. 4. Kipshkabaev R.K., Agakhanov S.A. Prevention of inflammatory postoperative complications in reconstructive maxillofacial surgery in children based on microbiological monitoring // Pediatric Dentistry and Prevention. - 2005. - No. 2 - S. 52 -54. 5. Mishutina O.L., Molokanov N.Ya. Features of providing dental care to children with connective dysplasia syndrome tissue of the heart. Materials of X11 and XIII scientific-practical conferences and work of the 1X Congress of the Dental Association of Russia. -2004. - S. 453 -455. 6. Mishutina O.L., Molokanov N.Ya. Diagnosis of dental manifestations of the syndrome of dysplasia of the connective tissue of the heart in children and features of the treatment of patients by a dentist / guidelines for dentists and pediatricians. - Smolensk, 2004. -27 p. 7. Practical guide to anti-infective chemotherapy. Edited by L.S. Strachunsky, Yu.B. Belousova, S.N. Kozlov. - Smolensk: MACMAH, 2007. - 464 p. 8. Prevention of infective endocarditis. From the editor. //Clinical pharmacology and therapy. - 17(2). - 2008. - P.5 - 8. 9. Rational pharmacotherapy in dentistry: Guide. for practicing doctors / G.M. Barer, E.V. Zoryan, V.S. Agapov and others; Under the general editorship. G.M. Barera, E.V. Zoryan. - M.: Littera, 2006. - 568 p. 10. Handbook of Pediatric Dentistry / Edited by A. Cameron, R. Widmer. Translation from English, edited by T.F. Vinogradova, N.V. Ginali, O.Z. Topolnitsky. - 2003. - 287 p. 11.