ANTIMICROBIAL TREATMENT BEFORE DENTAL PROCEDURES IN PATIENTS WITH BACTERIAL ENDOCARDITIS

Adriana Krasteva¹, Assya Krasteva², Angelina Kisselova²
¹Department of Pharmacology and Toxicology, Faculty of Pharmacy,
²Department of Imaging and Oral Diagnostic, Faculty of Dental Medicine,
Medical University, Sofia, Bulgaria

ABSTRACT

Infective endocarditis is a rare condition with significant morbidity and mortality. It may arise following bacteraemia in a patient with a predisposing cardiac lesion. In an attempt to prevent this disease, over the past 50 years, at-risk patients have been given antibiotic prophylaxis before dental procedures.

INTRODUCTION:

Some of the antibiotics are presented as prophylaxis of infective endocarditis in patients at risk with rheumatic, inherited or acquired heart disease who are undergoing invasive dental procedures. The prophylaxis is of a high importance in order to be reduced the risk of bacteraemia after dental procedures.

Our goal is to present the most commonly used prescriptions in dentistry to be in favor of dental practitioners when choosing the antibiotic prophylaxis for patients at risk.

PRESCRIPTIONS:

ADULTS
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d. 4 caps.
S. 4 caps. (2 g) p.o., 1 hour before the dental procedure*

Note: Standard prophylaxis scheme of infective endocarditis in adults and children > 30 kg

ADULTS ALLERGIC TO PENICILLIN
Rp. Clindamycin caps. 300 mg (Dalacin C, Clindamycin MIP 300)
D.t.d. 2 caps
S. 2 caps p.o., 1 hour before the dental procedure*

or
Rp. Cefadroxil caps. 500 mg (Biodroxil, Duracef)
D.t.d. 4 caps
S. 2 caps p.o., 1 hour before the dental procedure*
Note: To be avoided in patients allergic to penicillin.

or
Rp. Azithromycin caps. 500 mg (Azatril, Azibiot, Sumamed)
D.t.d. 1 caps
S. 1 caps p.o., 1 hour before the dental procedure*

*Patients with high risk: half of the dose could be repeated 6 hours after the initial dose (exception is azithromycin, where a second dose is not necessary).

ADULTS ALLERGIC TO PENICILLIN AND CANNOT TAKE ORAL MEDICATION
Rp. Cefazolin fl. 1000 mg (Kefzol, Cefazolin)
D.t.d. 1000 mg fl.
S. 1000 mg i.m. or i.v. 30 min before the dental procedure*

CHILDREN
Rp. Amoxicillin powder for oral suspension 125 mg/5 ml or 250 mg/5 ml (Amopen, Ospamox)
D.t.d. 60 ml fl.
S. 50 mg/kg p.o. 1 hour before the dental procedure*

Note: Standard prophylaxis scheme of infective endocarditis in children >30 kg. The initial dose amoxicillin could be calculated according to patients body weight: < 15 kg, 750 mg; 15-30 kg, 1000 mg; >30 kg, 2000 mg
CHILDREN ALLERGIC TO PENICILLIN
Rp. Cefadroxil fl. powder for oral suspension 250 mg/5 ml (Duracef)
D.t.d.  60 ml fl.
S.  50 mg/kg p.o. 1 hour before the dental procedure
Note: To be avoided in patients allergic to penicillin

or
Rp. Azithromycin fl. powder for oral suspension 100 mg/5 ml or 200 mg/5 ml (Sumamed)
D.t.d.  20 ml fl.
S.  15 mg/kg p.o. 1 hour before the dental procedure

CHILDREN ALLERGIC TO PENICILLIN AND CANNOT TAKE ORAL MEDICATION
Rp. Cefazolin fl. 500 mg (Kefzol)
D.t.d.  500 mg fl.
S.  25 mg/kg g.i.m. or i.v. 1 hour before the dental procedure

PATIENTS WITH HIGH RISK
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d. 1 000 mg fl., diluted 1:4 in sterile saline solution
S.  2 g i.m. or i.v. 30 min before the dental procedure

together with
Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)
D.t.d. according to the body weight
S.  1.5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure

6 hours later
Ampicillin 1 000 mg/100 ml i.m. or i.v. or Amoxicillin 1 000 mg p.o.

PATIENTS WITH HIGH RISK, ALLERGIC TO AMPICILLIN AND AMOXICILLIN
Rp. Vancomycin fl. 1000 mg (Vancocin)
D.t.d.  1 000 mg
S.  1 000 mg i.v. to be applied for 1-2 hours.

together with
Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)
D.t.d. according to the body weight
S.  1.5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure.

PATIENTS WITH HIGH RISK – CHILDREN
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d.  4 caps
S.  2 g p.o. 1 hour before the dental procedure*

together with
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d.  2 fl. 1 000 mg
S.  2 g i.m. or i.v. 30 min before the dental procedure*

PATIENTS WITH HIGH RISK – CHILDREN, ALLERGIC TO AMPICILLIN AND AMOXICILLIN
Rp. Vancomycin fl. 1000 mg (Vancocin)
D.t.d.  1 fl. 1 000 mg
S.  1 g to be applied slowly for about 1-2 hours i.v. 30 min before the dental procedure*

PATIENTS WITH RISK
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d.  4 caps
S.  2 g p.o. 1 hour before the dental procedure*

together with
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d.  2 fl. 1 000 mg
S.  2 g i.m. or i.v. 30 min before the dental procedure*

PATIENTS WITH HIGH RISK – CHILDREN
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d.  4 caps
S.  2 g p.o. 1 hour before the dental procedure*

together with
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d.  2 fl. 1 000 mg
S.  2 g i.m. or i.v. 30 min before the dental procedure*

PATIENTS WITH RISK – CHILDREN
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d.  4 caps
S.  2 g p.o. 1 hour before the dental procedure*

together with
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d.  2 fl. 1 000 mg
S.  2 g i.m. or i.v. 30 min before the dental procedure*

PATIENTS WITH HIGH RISK – CHILDREN
Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)
D.t.d.  4 caps
S.  2 g p.o. 1 hour before the dental procedure*

together with
Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)
D.t.d.  2 fl. 1 000 mg
S.  2 g i.m. or i.v. 30 min before the dental procedure*
PATIENTS WITH RISK – CHILDREN, ALLERGIC TO AMPICILLIN AND AMOXICILLIN
Rp. Vancomycin fl. 1000 mg (Vancocin)
D.t.d. 1 fl. 1000 mg
S. 20 mg/kg i.v. to be applied for about 1-2 hours
30 min before the dental procedure. **

**Total dose for children should not exceed the dose for adults.

REFERENCES:

Address for correspondence:
Adriana Krasteva
Department of Pharmacology and Toxicology, Faculty of Pharmacy, Medical University, Sofia, Bulgaria
E-mail: adriakr@gmail.com