UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Farmacologia

1819-3-H4601D014-H4601D037M

Aims

At the end of the course the student should know:

PHARMACOLOGY:
General mechanisms of drug actions on organs and systems as well as at cellular, biochemical, and molecular levels - Methods of drug administration and drug fate in the organism, including drug transport, biotransformation, metabolic activation, distribution, elimination - General mechanisms of toxic effects and methods of prevention - Possible causes of drug undesired effects and drug-drug interactions - Pharmacological properties of the different groups of drugs commonly employed in dentistry, particularly their mechanisms of action and fate in the organism, and criteria for differentiation of molecules within same group, as a function of potential toxicity and physio-pathological characteristics of patients.

ANESTHESIOLOGY: Methods
of induction of general anesthesia – Methods of induction of loco-regional anesthesia – Main maneuvers during anesthesia –Treatment of main emergencies in the dental practice.

Contents

The teaching module of PHARMACOLOGY provides the
essential knowledge necessary to prescribe and administer the drugs currently used in dentistry, knowing in-depth the drug composition, primary and secondary effects, and therapeutical indications. The teaching module of ANESTHESIOLOGY offers a detailed discussion of the general and loco-regional anesthesia, the pathophysiology of the main emergencies in the dentistry practice.

Detailed program

PHARMACOLOGY: Preclinical and clinical phases of drug development, pharmacovigilance - General and molecular pharmacology (molecular drug targets, receptors and transduction mechanisms, receptor tolerance, dose-response curves, efficacy and potency, therapeutic index) - Pharmacokinetics (administration methods, adsorption, distribution, metabolism, elimination, therapeutic interval, pharmaco-metabolic tolerance) - Pharmacogenetics - Specific drugs for dentistry (local and general anesthetics, anxiolytics, non-steroidal and steroidal anti-inflammatory drugs, opioid analgesics, antihistamines, drugs affecting blood coagulation and hemostasis, drugs affecting calcium homeostasis).

ANESTHESIOLOGY: Introduction and history of anesthesia - Coma - Anaphylaxis - Cardiopulmonary resuscitation during cardiac arrest - General anesthesia - Monitoring and complications during anesthesia - Pre-operatory evaluation - Influence of comorbidity on anesthesia - Loco-regional anesthesia - Pain therapy - Anesthetic maneuvers.

Prerequisites

Knowledge of all preparatory disciplines.

Teaching form

Formal lectures and practical demonstrations.

Textbook and teaching resource

PHARMACOLOGY:

- J.A. Yagiela, F.J. Dowd e E.A. Neidle “Pharmacology and Therapeutics for Dentistry”, VI edizione, Elsevier-Mosby, 2011.

- M. Furlanut “Farmacologia Generale e Clinica per le Lauree Sanitarie”, III edizione, Piccin, Padova, 2012.

- Goodman & Gilman “Le Basi Farmacologiche della Terapia”, XII Edizione, Zanichelli, 2012.

- Goodman & Gilman “Le basi farmacologiche della terapia – Il manuale”, II Edizione, 2015.

ANESTHESIOLOGY:

Anesthesia for odontostomatology and emergency medicine, 3rd ed. Manani et al. Ed. Idelson.

Semester

First semester.

Assessment method

PHARMACOLOGY: Oral exam related to topics discussed during lectures.

ANESTHESIOLOGY: Written test (True/False, multiple choice).

Office hours

Upon appointment.