

Abstract of the work program of the discipline

"Antimicrobial chemotherapy"

The main professional educational program of higher education is the specialty program in the specialty 31.05.01 Medical business, approved on 02/26/2021.

Form of study: full-time

The period of development of OPOP IN: 6 years

Department: Pharmacology with Clinical Pharmacology

1. The purpose of the discipline: mastering the discipline of Antimicrobial chemotherapy

2. The place of the discipline in the structure of the OPOP HE: the discipline Antimicrobial chemotherapy belongs to the basic part of Block 1 of the FGOS HE in the specialty 31.05.01 Medical business

3. Requirements for the results of mastering the discipline:

The process of studying the discipline is aimed at the formation and development of the competencies of **OPK-5; OPK-6; OPK-7; OPK-8; PC-10; PC-11**

As a result of studying the discipline , the student must

To know:

General properties of antimicrobials. Classification. General principles of the use of antimicrobial drugs. Mechanisms of antimicrobial

actions. Classification of penicillins. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. Side effects. Emergency care for the development of anaphylactic reactions. Drug interaction. Combined penicillins. Cephalosporins of the I- V generation.. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment.

Side effects. Drug interaction. Carbapenems. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. Side effects. Drug interaction. Monobactams. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. Side effects. Drug interaction. Features of pharmacokinetics and pharmacodynamics of beta-lactam antibiotics in pregnant women and fetus. Features of pharmacokinetics and pharmacodynamics of beta-lactam antibiotics in children. Calculation of the dose in children. Features of pharmacokinetics and pharmacodynamics of beta-lactam antibiotics in elderly and senile patients. Classification of aminoglycosides. Aminoglycosides of the I-III generation. Spectrum of antimicrobial action. Features of

pharmacokinetics. Indications for the appointment. Side effects. Security monitoring. Methods for calculating the glomerular filtration rate (GFR). Drug interaction. Fluoroquinolones. Classification. "Gr-negative" fluoroquinolones. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment.

"Respiratory" fluoroquinolones. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. "Respiratory-anti-anaerobic" fluoroquinolones. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment of Macrolides. Classification. the mechanism of antimicrobial action. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. The concept of the postantibiotic effect of "new" macrolides. Macrolides and drug-drug interaction at the level of biotransformation. Side effects. Tetracyclines. The mechanism of action. Spectrum of antimicrobial action. Features of pharmacokinetics. Indications for the appointment. Side effects. Drug interaction.

Glycopeptides (vancomycin). Mechanism of antimicrobial action. Spectrum of antimicrobial activity. Features of pharmacokinetics. Indications for the appointment. Etiology of community-acquired pneumonia (pneumococci, atypical microorganisms, respiratory viruses, etc.). Resistance of the main pathogens to antimicrobial drugs. Laboratory diagnostics and additional research methods. Rules for sampling material for microbiological diagnostics (sputum, blood). Pneumococcal rapid test. Characteristic

the main classes of antimicrobial drugs used in the treatment of community-acquired pneumonia (beta-lactam antibiotics, macrolides, fluoroquinolones). Etiotropic therapy of community-acquired pneumonia. The choice of starting antibacterial therapy in outpatient patients with community-acquired pneumonia (in patients without concomitant diseases, who have not taken antimicrobial drugs in the last 3 months and in patients with concomitant diseases and / or who have taken antimicrobial drugs in the last 3 months). Criteria for the effectiveness of antibacterial therapy. Duration of antimicrobial therapy.

The choice of an antibacterial drug in case of ineffectiveness of the initial treatment regimen of VP in outpatient settings. The choice of starting antibacterial therapy in hospitalized patients (severe and non-severe course). Criteria for the effectiveness of antibacterial therapy. Evaluation deadlines. Duration of antibacterial therapy. Step-by-step antibacterial therapy of community-acquired pneumonia.

Pathogens of nosocomial pneumonia. The choice of an antibacterial drug depending on the timing of the occurrence of nosocomial pneumonia (early, late). Antimicrobial pneumonia exacerbations of COPD.

The main causative agents of intraabdominal infections. Principles of treatment of

intraabdominal infections. Uncomplicated intraabdominal infections (without peritonitis): perforation of gastric or duodenal ulcers, penetrating wounds of the abdominal cavity, acute cholecystitis/cholangitis, liver abscess, acute appendicitis-drugs choice, alternative drugs. Complicated intraabdominal infections: common peritonitis/abscess (primary peritonitis, secondary, postoperative, infected forms of pancreatic necrosis, tertiary peritonitis). Surgical infection of the biliary tract. Penetration of antimicrobial agents into the bile. The choice of an antibacterial drug. Duration of antimicrobial therapy. Criteria for the effectiveness of therapy. Prevention of intraabdominal candidiasis. Risk factors for invasive candidiasis. Features of treatment of intraabdominal infections during pregnancy, breast-feeding. Features of treatment of intraabdominal infections in elderly people. Features of treatment of intraabdominal infections in children. Antibacterial therapy in high-risk patients.

Uncomplicated urinary tract infections (NIMP) (acute cystitis and urethritis, acute uncomplicated pyelonephritis in pregnant women, recurrent infection urinary tract). The main pathogens. Acute uncomplicated cystitis. Indications for bacteriological examination of urine Drugs of choice. Recurrent (uncomplicated) infection of the lower urinary tract. Drugs of choice. Russian recommendations for the empirical choice of AMP for the treatment of NIMP. Acute uncomplicated pyelonephritis of mild course. Acute uncomplicated pyelonephritis of severe course. Apostematous pyelonephritis. Kidney abscess. Tactics of antimicrobial therapy. Acute pyelonephritis of pregnant women. First-line drugs. Urosepsis.

Diagnostics. Treatment strategy. Hospital-based urological infection. The spectrum of pathogens. Features of therapy. Infection of a "foreign body", catheter -associated urinary tract infection (urethral catheter, the development of biofilms inside and outside catheters, stents, artificial materials-a focus of chronic infection in the body). Drugs of choice for the treatment of complicated urinary tract infections (UTIs). Combination therapy for AMI-modern recommendations. Classification of skin and soft tissue infections. Uncomplicated infections (furuncle and furunculosis, carbuncle, hydradenitis, erysipelas, cellulite, uncomplicated abscesses). Complicated infections (traumatic, bitten, postoperative wounds, diabetic foot syndrome, bedsores, trophic ulcers, burn wounds). Microbiological diagnostics.

Material sampling. Etiology of skin and soft tissue infections (*S. pyogenes*, *S. Aureus*, MRSA, *P. Aeruginosa*, Enterobacteriaceae, anaerobes-Prevotella, Porphyromonas spp., Bacteroides, Fusobacterium spp., Peptostreptococcus. Clostridium spp.). General principles of the use of antibiotics. Principles of rational use of antibiotics in surgery. Duration of

antibacterial therapy. criteria for sufficiency of antibacterial therapy. Treatment of primary uncomplicated infections of the skin and soft tissues. Primary complicated infections of the skin and soft tissues (necrotic fasciitis, pyomyositis, myonecrosis (gas gangrene). Antibiotic therapy.

Secondary infections (bites, infections of the surgical area). Antibiotic prophylaxis of infection of the surgical intervention area. Treatment of infection of the surgical intervention area. Duration of antibacterial therapy. Purulent-necrotic forms of diabetic foot syndrome. Antibacterial therapy. Bedsores. Factors affecting the development of pressure sores. Antibacterial therapy. Infections of burn wounds. Tactics of therapy.

Be able to:

To make the choice of antimicrobial drugs depending on the localization and severity of infection, impaired liver and kidney function. To monitor the safety of prescribing antibiotics of the penicillin group, cephalosporins.

To carry out prevention and be able to provide emergency care for the development of anaphylaxis.

To carry out dose adjustment in patients with impaired liver function.

To choose effective, safe antimicrobial agents in accordance with the clinical diagnosis based on pharmacotherapy standards, the list of VED, the formulary system, taking into account their pharmacokinetics, pharmacodynamics, adverse drug reactions, interactions with other drugs, individual sensitivity, functional state of the body.

Calculate the doses of medicines for patients with chronic renal insufficiency, impaired liver function, children, the elderly and senile. Interpret the results of the most common methods of abortive microbiological diagnostics to identify pathological processes in organs and systems;

to substantiate the principles of antimicrobial therapy of upper and lower respiratory tract infections, including nosocomial infections;

- choose a rational antimicrobial therapy tactic.

Own:

The algorithm for choosing the drug, dosage form and dosage regimen depending on the clinical situation

