Group of high severity without risk of Pseudomonas aeruginosa infection is treated by combination of the beta-lactam (protected penicillin, cephalosporin or carbapenem) and macrolide as the first-line therapy with parenteral form for both drugs. In alternative therapy line macrolide is replaced with fluoroquinolone.

In case of having the probability of infection with Pseudomonas aeruginosa it is recommended to choose combination of anti-pseudomonas cephalosporin with aminoglycoside or fluoroquinolone. The alternative treatment line includes carbapenem with aminoglycoside or fluoroquinolone. Also empirical therapy is apllied using Piperacillin-tazobactam, Aztreonam, Ceftazidime, Cefepim, Meropenem or Imipenem in parenteral forms.

Patients with high severity and risk of having methicillin resistant staphylococcus aureus (MRSA) as pathogen are treated with Vancomycine and Linezolid in the form of parenteral use.

Therapy duration for the first and the second group ranges from five to seven days in average case, shorter therapy is permissible while treating the first group with Azithromycin. Patients from the third and the forth groups should be treated from seven to ten days. Also, therapy must last from ten to fourteen days if mycoplasmal or chlamydial infections have been found.

Conclusions. Choosing drugs for the start of the empirical antibiotic therapy must be based on the patient`s condition, local data about the pathogen resistance, pharmacokinetics and pharmacodynamics of the chosen antibiotic. All the prescribed schemes of the treatment must be strictly conformed to the protocol requirements. Correctly selected empirical therapy can significantly reduce the risks of complications from CAP and improve the patient’s condition in short terms. Information about the newest antibiotics and recommendations for their use from not only national but also foreign sources will help healthcare specialists to provide first-class help to the population.

MODERN PHARMACOTHERAPY OF CUSHING’S DISEASE

Kulaieva O. Ye.
Scientific supervisor: assoc. prof. Tryshchuk N.M.
National University of Pharmacy, Kharkiv, Ukraine
akulaeva98@gmail.com

Cushing's disease is one cause of Cushing's syndrome characterised by increased secretion of adrenocorticotropic hormone (ACTH) from the anterior pituitary (secondary hypercortisolism).

Cushing disease is caused by a tumor or excess growth (hyperplasia) of the pituitary gland. The pituitary gland is located just below the base of the brain. A type of pituitary tumor called an adenoma is the most common cause. An adenoma is a benign tumor (not a cancer).

With Cushing disease, the pituitary gland releases too much ACTH. ACTH stimulates production and release of cortisol, a stress hormone. Too much ACTH causes the adrenal glands to make too much cortisol.

Pituitary adenomas are responsible for 80% of endogenous Cushing's syndrome, when excluding Cushing's syndrome from exogenously administered corticosteroids.

Symptoms of Cushing disease include:

1. Upper body obesity (above the waist) and thin arms and legs;
2. Round, red, full face (moon face);
3. Slow growth rate in children.

Treatment for Cushing's Syndrome is designed to reduce the high levels of cortisol in your body. Treatment options include:

1. If the cause is prolonged use of corticosteroid drugs, then the doctor should reduce the dosage of the drug over a period of time, while still managing asthma, arthritis or any other condition.
2. If the cause of Cushing's syndrome is a tumor, the doctor may recommend complete surgical removal.

3. If the surgeon cannot completely remove the pituitary tumor, he usually prescribes radiation therapy to be used in conjunction with surgery.

Medications to control excessive production of cortisol at the adrenal gland include ketoconazole, mitotane (Lysodren) and metyrapone (Metopirone).

Ketoconazole – an imidazole derivative – in adequate doses reduces steroid production in the adrenal glands, inhibiting many steroid enzymes. Recommended at 200-1200 mg per day.

Mitotane – it has a cytotoxic effect on adrenal cells, and it also seems to inhibit the function of the adrenal cortex without destroying the cells. Is initiated at a dose of 0.5-1 g/per day, which is titrated against serum cortisol levels by 0.5-1 g every few weeks.

Methirapon – inhibits 11p-hydrolase. The routine starting dose is 250 mg, three times per day, with cortisol levels falling within 2 h of initiating the treatment

Mifepristone (Korlym, Mifeprex) is approved for people with Cushing syndrome who have type 2 diabetes or glucose intolerance. Mifepristone does not decrease cortisol production, but it blocks the effect of cortisol on tissues. The tablets are taken on an empty stomach or 2 hours after ingestion.

The latest cure for Cushing's disease – Pasereotide (Signifor) – is a multi-ligand analogue of somatostatin. Pasireotide is the only drug registered for the treatment of adult patients in whom surgical treatment is ineffective or impossible. It works by decreasing the production of ACTH from the pituitary tumor. This drug is given as an injection. The recommended starting dose is 0.9 mg 2 times / day.

MODERN PHARMACOTHERAPY OF INFECTIVE ENDOCARDITIS

Marchenko D.O.
Scientific supervisor: assoc. prof. Kashuta V.E.
National university of Pharmacy, Kharkiv, Ukraine
diana_m_3099@ukr.net

Introduction. Infective endocarditis is a serious infectious disease with a complicated course. It is characterized by the formation of vegetations on valves or under-valvular structures, their destruction and the development failure of the valve. According to the data of AHA, infective endocarditis is an uncommon infectious disease with an annual incidence ranging from 3 to 7 per 100000 persons.

Aim. Study of modern standards of medical care for patients on infective endocarditis.

Materials and methods. We conducted an analysis of articles, an adapted clinical guideline based on evidence, a unified clinical protocol providing medical care to patients with infective endocarditis.

Results and discussion. The main symptoms of infectious endocarditis are high fever with chills, lethargy, shortness of breath, muscle and joint pain, noise in the heart. Complications of the disease are heart failure, thromboembolic complications. Treatment of infective endocarditis is aimed at eradication of the pathogen. The main direction of treatment is antibacterial therapy. The choice of antibacterial drugs depends on the pathogen. For empirical treatment, a group of β-lactam antibiotics, penicillins (ampicillin) in combination with a group of penicillins resistant to β-lactamases (flufloxacillin) and a group of aminoglycosides (gentamicin) are used. When detected a patient is allergic to penicillins, glycopeptide antibiotics (vancomycin) to appoint in combination with aminoglycosides (gentamicin). If the causative agent of the disease is a group of streptococci, a group of β-lactam antibiotics (penicillin G or amoxicillin or ceftriaxone) in combination with an aminoglycoside group (gentamicin or netilmicin) is used for treatment. Patients with allergy to β-lactam antibiotics are usually prescribed a group of glycopeptide antibiotics in combination with gentamycin. If the causative agent is staphylococcus, the treatment is carried out by a group of β-lactam antibiotics, penicillins (flufloxacillin or oxacillin) or alternative therapy – sulfonamides and lincosamides (co-trimoxazole in combination with clindamycin). In patients with penicillin or methicillin-resistant staphylococcus allergy, glycopeptide antibiotics are used for treatment, or a group of lipopeptides (daptomycin) is an alternative treatment.