**Сhair of clinical pharmacology and pharmacotherapy**

**Сlinical case record of the patient**

**Student \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Group \_\_\_\_\_\_\_\_\_\_\_\_**

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| **MINUTES OF EDUCATIONAL RESEARCH STUDENT WORK BY DISCIPLINE  CLINICAL PHARMACOLOGY for the students of 6 course of medical faculty** |

**Case history.**

1. Determine the Complete Clinical Diagnosis (basic disease, complications of basic disease and co-existing diseases).

2. Treatment.

* Define necessary therapeutic classes of drug and appropriate group within the class for treatment basic and co-existing diseases. Explain your chosen.
* Choose the particular drug within each group. Explain your chosen for treatment your individual case.
* Characterize each chosen drug:
  + Describe pharmacodynamic process (mechanism of action, basic pharmacological and therapeutic effects),
  + Describe pharmacokinetic process (drug adsorption, drug distribution, protein binding, drug metabolism, drug excretion).
* Determine possible adverse effects of chosen drugs. Explain the ways of their correction.
* Analyse interaction all chosen drugs each other. Present the result of your analyse as a table.

**Drug interaction**

|  |  |  |  |
| --- | --- | --- | --- |
| Drug name | 1 | 2 | 3 |
| 1 | - | I  II  III  IV  V | I  II  III  IV  V |
| 2 | - | - | I  II  III  IV  V |
| 3 | - | - | - |

1. Pharmaceutical (physicochemical) interaction (only for intravenous remedies)
   1. Combined
   2. Non combined
2. Pharmacokinetic interaction during the process of adsorption
   1. Increase of bioability first or second drug
   2. Decrease of bioability first or second drug
   3. The first drug don′t change the process of adsorption the second one.
3. Pharmacokinetic interaction during the process of liver metabolism
   1. Increase the speed of metabolism
   2. Inhibit the speed of metabolism
   3. The first drug don′t change the process of metabolism the second one.
4. Pharmacodynamic interaction
   1. Synergism at the same site
   2. Antagonism at the same site
   3. The first drug don′t change the pharmacodynamic effects of the second one.
5. Pharmacokinetic interaction during the process of excretion
   1. Increase the speed of excretion
   2. Inhibit the speed of excretion
   3. The first drug don′t change the process of excretion the second one.

* Choose a dosage regimen, frequency of drug administration
* Offer an alternative drug therapy.

**PATTERN OF EXPERT OPINION:  
Pharmacological card**

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**Made by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(name and surname)**

**Student of the 6 course\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_faculty \_\_\_\_\_\_group**

**20\_\_\_\_/20\_\_\_\_ school year**

**Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Mark\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Patient’s initials \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Sex\_\_\_\_\_\_\_Age\_\_\_\_\_\_\_\_Weight\_\_\_\_\_\_\_\_\_Height\_\_\_\_\_\_\_\_BMI\_\_\_\_\_**

**(BMI – body mass index)**

**Patients profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Medical facility\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_room\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Supervision date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Diagnoses (from patient’s medical card, frombypassing with the head of the department or stage epicrisis):**

**Primary diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Complications\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Concomitant diagnosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1. Pharmacological anamnesis (including allergical anamnesis and undesired drug reactions):**

**2. Patient’s treatment on prehospital stage (drugs, doses, duration of administration, efficacy, undesired reactions):**

**3. Description of patient’s pharmacotherapy according to the prescribing sheet (use table 1):**

**4. Evaluate efficacy of pharmacotherapy ( use objective and subjective evaluation methods, laboratory and instrumental methods – according to the data of patient’s assessment from medical card). Justify your conclusion.**

**5. Indicate the possible causes of failure of held pharmacotherapy.**

**6. Evaluate assigned pharmacotherapy in terms of evidence-based medicine (Explain your answer, citing links to national recommendations, international recommendations and guidelines).**

**7. Evaluate dose, dosing regimens of drugs that make drug treatment a patient (justify your opinion by calculations).**

**8. Evaluate the safety of pharmacotherapy assigned using historical data of a patient (clinical, laboratory, instrumental).**

**9. Rate drug - drug interaction (Table 2)according to assigned pharmacotherapy. When completing the table in the cell at the intersection of two drugs you should indicate the type of interaction (pharmacokinetic/pharmacodynamic), the level of interaction, the mechanism of interaction, the possible clinical consequences of the interaction. If it is no interaction, put a dash («-»).**

**Table 2**

**Evaluation of the drug-drug interaction**

|  |  |  |  |
| --- | --- | --- | --- |
| drug | drug 1 | drug 2 | drug 3 |
| drug 1 | - |  |  |
| drug 2 |  | - |  |
| drug 3 |  |  | - |

**Table 1**

**Description of patient’s pharmacotherapy (according to the prescribing sheet)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DRUG (brand name, INN, clinical and pharmaceutical group, composition) | Single dose | | Dose frequency | Features of administration (route, speed, connection with a meal, dilution) | Date of administration | Date of withdrawal | Do you agree with the prescribed treatment or not |
| ml, tab., etc. | g or mg |
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**10. With the development of adverse drug reactions (ADR) fill-card notification of its development (Table 3).**

**Table 3**

**NOTICE of adverse drug reactions.**

**I. Information about patient and adverse drug reaction**

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| --- | --- | --- |
| **1. Patient’s name and surname ( or patients code)** | **2. Age** | **3. Sex** |
|  |  |  |
| **4. Description of ADR (indicate, was it life threatening – yes or no )** | | **5. ADR outcome**  **А – full recovery**  **B – recovery with effects (specify with what)**  **С – hospitalization or its prolongation (line the needed)**  **D – death due to taking drugs**  **Е – death may be associated with taking drugs**  **F – cause of death is unknown**  **G – congenital anomaly**  **Н – other outcome (please specify)**  **I – outcome is unknown** |

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| **II. Information on suspected drug (SD)** | | | | | | | | | | | |
| **6. Suspected drug(s) (SD) - names**  - International Nonproprietary Name (INN) • Brand name and manufacturer • № Series • Overdue the expiration date? YES NO UNKNOWN | | | | | | | | | 11 Was the drug withdrawal accompanied by a disappearance of ADR?  YES NO  UNKNOWN | | |
| **7. Drug form**  **8. Route of administration** | | | | | | **9. Single dose/daily dose** | | **10. Dose caused ADR** | **12. Was there the recurrence of the ADR after the drug withdrawal? YES NO UNKNOWN** | | |
| **13 Indications for SD (if appointed by the unregistered indication, please specify)** | | | | | | | | | **14. SD administered:**  **• outpatient • hospital • self-medication** | | |
| **15. Dates of usage (from / till)** | | | | | | | **16. Duration of therapy before arising of ADR** | | **17. Arising of ADR** | | |
| **day** | **month** | **year** | **day** | **month** | **year** | | **day** | **month** | **year** |
|  |  |  |  |  |  | |  |  |  |

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| **III. Concomitant drugs and anamnesis** |
| **18. Сопутствующие ЛС (названия, дозы) и сроки назначения** |
| 19. Anamnesis data (concomitant desease, allergy, pregnancy, сопутствующие заболевания, аллергия, беременность, pernicious habits, etc.) |

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| **IV. Corrective measures of the ADR** | |
| Withdrawal of SD | *No correction* |
| Reducing the dose of SD |  |
| Drug therapy of ADR (indicate drugs) | Withdrawal of concomitant drugs (name the drugs) |

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| **V. Additional data** |
| Data of clinical, laboratory investigations, radiology and autopsy, including determination of the concentration of drug in the blood / tissue, if any are presented and are associated with the ADR (please write normal indexes and dates. |
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| **VI. Information correlating with the SD or ADR** | | | |
| Did the patient receive SD (or other drugs containing the same active ingredient) in the past?  If yes, what ADR appeared – the same or other?  If other, indicate what. | Yes NO |  | Unknown |
| Did other drugs cause the same ADR? If yes, indicate what drugs? | Yes | No | Unknown |
| Was there a similar clinical manifestations of the ADR in a patient, not associated with taking drugs?  If yes, what? | Yes | No | Unknown |
| Could other factors influence the development of the ADR (systemic diseases, drug dependency, the environment, allergy, ethnicity?)  If yes, what? | Yes | No | Unknown |

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| --- | --- |
| **VII. Drug’s status** | |
| Clinical trials (phase) | Usage in medical practice |

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| **VIII.Other features of clinics and outcome** |
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**IX. ADR was revealed by:**

**Doctor ⁭ Nurse ⁭ Medical Assistant Pharmacist ⁭ Patient**

**⁭**

**Name of medical institution, country, city and name of the sender (postal and email address, phone, fax)**

**Date Signature**

**11. Identify factors that reduce the patient's adherence to guidelines for drug treatment, and develop methods to improve compliance in supervised patient.**

**12. If you do not agree with the choice of drug and / or regimen, which were carried out by the attending physician, offer your own version of pharmacotherapy with its rationale (including the assessment level of evidence), and ways to improve drug therapy in view of the pharmacodynamics and pharmacokinetics of drugs.**

**Date of card filling\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Students signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**FINAL VARIANT OF CLINICAL PHARMACOLOGIC CARD SHOULD BE PERFORMED TO THE TEACHER ON THE PENULTIMATE OCCUPATION OF THE.**