SUMMARY

Despite development of diagnostic and therapeutic methods used in gastroenterology, gastrointestinal bleeding is still a significant clinical problem and often requires urgent endoscopic intervention. The incidence of episodes of upper gastrointestinal (UGT) or lower gastrointestinal (LGT) bleeding does not decrease, because apart from commonly known causes (for example duodenal and stomach ulcers, esophageal varices, colonic diverticula), there is an increased risk of upper and lower gastrointestinal bleeding in patients using anticoagulant therapy. This is one of the most frequently used forms of pharmacotherapy in modern medicine. Currently, pharmacotherapy has several groups of anticoagulants, which are highly effective in the prevention of thrombosis of various origins and in the treatment of existing blood clots. These are: vitamin K antagonists - 4-hydroxycoumarin derivatives (acenocoumarol and warfarin), direct thrombin inhibitors (unfractionated heparin, low molecular weight heparins, fondaparinux) and the so - called "new drugs" - new oral anticoagulants - NOACs (also called novel oral anticoagulants) also referred to as DOACs (direct oral anticoagulants): selective thrombin activity inhibitors (dabigatran) and selective factor Xa activity inhibitors (rivaroxaban, apixaban, edoxaban).

All anticoagulants show an increased risk of hemorrhagic complications, but according to available studies (dabigatran - RE-LY, rivaroxaban - ROCKET AF, apixaban - ARISTOTLE and edoxaban - ENGAGE AF-TIMI 48) in the latest generation drugs the risk is lower. They are safer in terms of CNS bleeding and intracranial complications, but compared to vitamin K antagonists, the use of dabigatran, rivaroxaban and edoxaban may be a more frequent cause of gastrointestinal bleeding.

The aim of the doctoral thesis was: 1. To analyze the frequency and intensity of upper (Forrest scale) and lower (Oakland scale) gastrointestinal bleeding in patients using anticoagulants depending on the type of drug taken, compared to patients not using anticoagulant treatment.

2. To evaluate the relationship between anticoagulant therapy and the location and activity of gastrointestinal bleeding.

3. Comparison of the prognostic assessment of the risk of recurrent upper gastrointestinal bleeding and death (Rockall scale) between patients using anticoagulants of different groups and not using anticoagulant therapy.

The study included an analysis of the records of 223 patients (92 women and 131 men, mean age 72.8 years) with diagnosed gastrointestinal bleeding, hospitalized at Klinikum Vest GmbH, Akademisches Lehrkrankenhaus der Ruhr-Universität Bochum (Behandlungszentren Knappschaftskrankenhaus Recklinghausen, Paracelsus-Klinik Marl) in 2015-2018, in which the endoscopic procedure was performed. Among them, we selected a group of 84 treated with anticoagulants. The comparative group (139 people) were patients with gastrointestinal bleeding who underwent endoscopic examination but did not receive anticoagulant treatment. We divided patients into groups depending on the type of drugs taken (classic - vitamin K inhibitors and the NOACs - direct inhibitors of the factor Xa and thrombin), bleeding sites (upper vs. lower gastrointestinal tract), age, sex, bleeding activity and comorbidities.

We analyzed all patients for history (with particular emphasis on anticoagulant therapy), physical examination, selected laboratory parameters and the endoscopic techniques used: gastroscopy and injection techniques (injection with norepinephrine or adrenaline solution);

coagulation techniques (contact coagulation - bipolar and non-contact electrocoagulation - APC); mechanical hemostasis techniques (application of hemostatic clips including OTSC clips); the use of substances with a local hemostatic effect (Hemospray®, EndoClotTM, PuraStatTM); a combination of endoscopic hemostatic techniques, as well as colonoscopy and injection with norepinephrine or adrenaline solution; bipolar electrocoagulation; APC and mechanical hemostasis.

The classification of endoscopic features of upper gastrointestinal bleeding was based on the Forrest scale, and the risk of recurrent gastrointestinal bleeding and death following upper gastrointestinal bleeding was assessed according to the Rockall scale. Assessment of lower gastrointestinal bleeding severity was based on the Oakland scale and the number of red blood cell concentrates transfused.

Based on the obtained results, we found that:

1. The most common causes of upper gastrointestinal bleeding in the study group were angiodysplasias, duodenal and gastric ulcers, and post-polypectomy complications with lower gastrointestinal bleeding.

2. There was no relationship between the type of anticoagulants used and the site of gastrointestinal bleeding and the risk of rebleeding with upper gastrointestinal tract assessed in the modified Forrest scale.

3. Bleeding activity from upper gastrointestinal tract, assessed according to the Forrest scale, was not different in patients using the markumar compared to patients using the so-called “new” oral anticoagulants.

4. The pre-endoscopic risk of rebleeding from the upper gastrointestinal tract and death, as determined by the Rockall scale, was higher in patients using anticoagulants compared to patients not receiving this type of therapy, but it did not differ depending on the drug used (markumar, so-called "new" anticoagulants, heparin).

5. The risk of adverse course of bleeding with lower gastrointestinal tract, as assessed by the Oakland scale, was higher in patients using anticoagulants compared to bleeding patients not using this type of therapy.

6. The use of anticoagulant treatment in patients bleeding from the gastrointestinal tract did not affect the mode of endoscopic examination (urgent, elective) and the place of hospitalization of the patient (internal medicine department, Intensive Care Unit, Intermediate Care Unit) compared to patients bleeding from the gastrointestinal tract not receiving anticoagulants.