ORGANIZATION OF PHARMACEUTICAL CARE FOR CARDIAC RHYTHM DISORDERS

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Relevance of the problem: This extensive study investigates antithrombotic therapy optimization for patients with cardiac rhythm disorders (CRDs), with a specific focus on atrial fibrillation (AF), supraventricular, and ventricular arrhythmias, frequently accompanied by ischemic heart disease. Conducted from 2020 to 2023 across various cardiology departments in Uzbekistan, the study evaluated 250 patients to examine their adherence to oral anticoagulant (OAC) therapy, the potential of platelet microvesicles (PMVs) as biomarkers for thromboembolic risk, and the alignment of clinical practices with international antithrombotic guidelines.

Research methods and materials: Findings underscore significant challenges in treatment adherence, with only 43.1% of patients consistently following prescribed OAC therapy.

Factors such as high therapy costs, limited patient awareness of the therapy's benefits, and perceived lack of efficacy contributed to substantial drop-out rates at six and twelve months, even after educational interventions. This highlights the need for sustained, multifaceted adherence support. The study also reveals a strong correlation between elevated PMV levels and increased thromboembolic risk in CRD patients, underscoring the potential of PMVs as predictive biomarkers. Statistical analyses, including multivariate regression and ROC analysis, demonstrated that PMVs could serve as practical, accessible tools for routinely assessing thromboembolic risk, enabling early intervention for high-risk patients.

Results: Based on these insights, the study recommends establishing a national registry for CRDs in Uzbekistan, enabling comprehensive tracking of patient outcomes, treatment adherence, and real-world applications of clinical guidelines. Such a registry would facilitate data-driven improvements in patient management practices and provide an invaluable resource for future research. Additional recommendations emphasize the implementation of structured, ongoing patient education programs to enhance understanding and adherence to OAC therapy. By continuously educating patients on the importance of adherence, these programs could foster more sustainable long-term outcomes and mitigate the high drop-out rates observed.

Discussion: The study further advocates for integrating PMV monitoring into routine clinical practice, allowing clinicians to personalize treatment plans based on individual thromboembolic risk.

Elevated PMV levels indicate a heightened risk of adverse thromboembolic events, and their routine monitoring could offer a cost-effective means to tailor anticoagulation therapy, especially in high-risk groups. This approach aligns with global standards for precision medicine, promoting individualized care pathways that optimize therapeutic efficacy while minimizing unnecessary risks.

Overall, the findings underscore the critical need for a personalized, integrative approach to CRD management, combining pharmacological therapies with innovative biomarker-based assessments and comprehensive patient education. The incorporation of PMV analysis as a predictive tool enables targeted therapeutic strategies, allowing healthcare providers to prioritize high-risk patients and make informed decisions on anticoagulant regimens. This study contributes valuable knowledge to the field of cardiovascular medicine, particularly in resource-limited settings, by supporting PMVs as a viable biomarker for thromboembolic risk.

Conclusion: This research lays the groundwork for future studies aimed at expanding the understanding of PMVs' role in thromboembolic risk and assessing the long-term benefits of routine PMV monitoring. Additionally, the findings suggest avenues for improving adherence strategies, which could include tailored education initiatives or interventions addressing specific barriers to adherence, such as financial constraints. By validating these findings in larger, diverse populations, future studies can build on this work to refine and expand personalized cardiovascular care models, ultimately aiming to reduce thromboembolic complications and improve quality of life for CRD patients both in Uzbekistan and globally.

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