

## **17. EVALUATION OF THE CLINICAL EFFICACY AND SAFETY OF ACE INHIBITORS IN VARIOUS CARDIOLOGICAL PATHOLOGIES IN CHILDREN AND ADOLESCENTS**

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**Introduction.** According to various literature data, angiotensin-converting enzyme inhibitors (ACE inhibitors) are considered effective, safe and well-tolerated drugs in children and adolescents, despite the inconsistency and lack of sufficient evidence for their use. ACE inhibitors in pediatrics can be used in the treatment of arterial hypertension, heart failure, various congenital heart abnormalities, chronic kidney disease with massive proteinuria, glomerulonephritis and diabetes. The most commonly used ACE inhibitors in children and adolescents are Captopril and Enalapril, but it is also possible to use Lisinopril, Ramipril, Fosinopril, Quinapril. The use of this group of drugs in children and adolescents requires compliance with the recommended dosage and careful monitoring of the patient's condition due to a greater exposure to the risk of side effects than in adults. The recommended dose in children and adolescents for captopril are 0.3-0.5 mg/kg/day divided into 2-3 doses (maximum 6 mg/kg/day; 40 mg/day) and enalapril 0.08 mg/kg/day (maximum 0.6 mg/kg/day ; up to 5 mg per day). Enalapril is not recommended for neonates or children with glomerular filtration rate <30 mL/min/1.73m<sup>2</sup>.

**Aim of study.** To identify and analyse the clinical efficacy of ACE inhibitors in pediatric cardiology for various heart pathologies in children and adolescents.

**Methods and materials.** In a retrospective study, data were processed from 598 (100%) inpatient medical records of cardiac patients in the age category of 1-18 years with various heart pathologies treated in the period 2020-2021 at the Children's Municipal Clinical Hospital named after V. Ignatenko in Chisinau.

**Results.** As a result of the study, it was found that 87% of cases were emergency hospitalizations. Pharmacotherapy analysis showed that ACE inhibitors (captopril or enalapril) were used in 33.74% of cases. Of these, 13.37% were associated with congenital heart defects, 1.5% with non-rheumatic myocarditis, 1.83% with mitral valve prolapse, 3.34% with post-infectious cardiopathies, 8.02% with arterial hypertension, and 5.68% with various degrees of heart failure. Doses of drugs depending on the diagnosis, purpose of use, and different age categories were: 1 mg/kg / day for captopril, 0.02-0.05 mg/kg/day for enalapril, and for hypertension in children over 6 years of age, depending on body weight: 0.625-1.25 mg/kg/day. The duration of treatment was 5-10 days.

**Conclusion.** This study of the use of ACE inhibitors in pediatric cardiology for various heart pathologies demonstrated high efficacy and safety due to the absence of side effects. There was a significant improvement in the condition of patients and an increase in exercise tolerance during treatment with ACE inhibitors at recommended doses due to vasodilating and cardioprotective properties.