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**O'ZBEKISTON RESPUBLIKASI SOG'LIQNI SAQLASH VAZIRLIGI  
RESPUBLIKA IXTISOSLASHTIRILGAN NEFROLOGIYA VA BUYRAK TRANSPLANTATSIYASI  
ILMIY-AMALIY TIBBIYOT MARKAZI  
TOSHKENT PEDIATRIYA TIBBIYOT INSTITUTI  
"O'ZBEKISTON DIALIZ JAMIYATI" NT  
TOSHKENT DAVLAT STOMATOLOGIYA INSTITUTI**

**XALQARO ILMIY-AMALIY ANJUMAN**

**«SOG'LOM BUYRAKLAR - HAMMA UCHUN»**

**TEZISLAR TO'PLAMI**



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Ilmiy to'plamda 2025 yil 12 aprelda Toshkentda o'tkazilgan "Sog'lom buyraklar - hamma uchun" mavzusidagi xalqaro ilmiy-amaliy anjumanning tezislari to'plami hisoblanadi. To'plamda O'zbekiston Respublikasi Sog'liqni saqlash vazirligi, Respublika ixtisoslashtirilgan nefrologiya va buyrak transplantatsiyasi ilmiy-amaliy tibbiyot markazi, Toshkent pediatriya tibbiyot instituti va boshqa tashkilotlar hamkorligida tashkil etilgan konferensiya materiallari jamlangan.

To'plamda surunkali buyrak kasalliklari, glomerulonefrit, pielonefrit, buyrak transplantatsiyasi, gemodializ, diabetik nefropatiya, podagrik nefropatiya va boshqa ko'plab buyrak patologiyalari bo'yicha tadqiqotlar natijalari aks ettirilgan. Shuningdek, kardiorenal sindrom, buyrak disfunktsiyasi, o'pka gipertenziyasi kabi asoratlarning va ularni davolashning zamonaviy usullari to'g'risidagi ilmiy maqolalar ham o'rin olgan. Materiallar o'zbek, rus va ingliz tillarida taqdim etilgan bo'lib, O'zbekiston va xalqaro miqyosdagi ko'plab olimlar va mutaxassislarining ishlari jamlangan.

Muxarrirlik kengashi anjuman materiallarining mazmuniga mas'ul emas.

Ilmiy to'plam mualliflar tomonidan topshirilgan tezislarni original holatda chop etmoqda.

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plantain juice in addition to OL and thereby achieved an improvement in the general condition of patients, a reduction in the symptoms of intoxication, an increase in the bactericidal function of the stomach and, most importantly, a greater removal of the final harmful metabolic products from the body in chronic renal failure compared to the control group.

**Conclusion.** In the majority (77.5%) of patients with chronic renal failure, the excretory function of the stomach is impaired. In (85%) of the examined patients with

chronic renal failure, normal and decreased secretory function of the stomach was detected. When plantain juice is included in the generally accepted treatment of patients with chronic renal failure, due to the increase in secretory, motor-evacuation and normalization of the excretory function of the stomach, an improvement in the general condition of patients, a reduction in the symptoms of intoxication, an increase in the bactericidal function of the stomach and a greater removal of harmful end products of metabolism from the body are achieved.

## MODERN ASPECTS OF TREATMENT OF PHOSPHORUS METABOLISM DISORDERS AND TUBULOPATHY IN CHILDREN WITH DIABETES

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**Relevance.** Phosphorus metabolism disorders and tubulopathy in children with diabetes are complex conditions that require careful management. These disorders can lead to significant complications, including bone deformities and kidney issues, if not properly addressed.

**The purpose of the study.** To evaluate the modern approaches to treating phosphorus metabolism disorders and tubulopathy in children with diabetes, focusing on improving clinical outcomes and managing associated complications.

**Materials and methods.** The analysis of scientific articles, publications and databases in international scientific sources PubMed, Medline, Scopuc, Web of Science and Cochrane Library devoted to the study of modern aspects of treatment of phosphorus metabolism disorders and tubulopathy in children with diabetes. The studies used various types of research approaches, including clinical observations, randomized clinical trials, and systematic reviews.

**Results.** Vitamin D and Phosphate Supplementation: In cases of phosphate diabetes, a form of tubulopathy, treatment often includes vitamin D and inorganic phosphate supplements. This approach helps manage symptoms and prevent bone de-

formities, as seen in clinical cases where patients maintained normal blood phosphorus levels and avoided severe side effects.

Sodium-glucose cotransporter 2 (SGLT2) inhibitors, such as dapagliflozin and empagliflozin, have shown promise in treating diabetic kidney disease (DKD) and related tubulopathies. These inhibitors help correct metabolic disorders in the kidney by reducing glucose-induced damage and improving tubular cell function. They have been effective in reducing fibrosis and inflammation in diabetic kidneys and are being explored for their potential in treating conditions like Fanconi-Bickel syndrome.

Achieving normal or near-normal plasma glucose levels through insulin therapy can improve mineral metabolism in diabetic patients. This treatment can increase serum phosphorus levels and improve phosphate reabsorption in the kidneys, which is crucial for managing osteopenia associated with diabetes.

This condition is characterized by changes in the proximal tubule cells of the kidney, which are highly susceptible to damage due to their energy requirements and reliance on aerobic metabolism. Hyperglycemia and associated metabolic disturbances can lead to cellular senescence and

various forms of regulated cell death, contributing to the progression of DKD.

Phosphorus plays a critical role in cellular function and homeostasis. In diabetes, phosphorus metabolism can be disrupted, leading to complications such as cardiovascular disease and bone disorders. While dietary phosphorus intake is a concern, clear guidelines for its management in diabetic patients are still lacking.

**Conclusions.** Effective management of phosphorus metabolism disorders and tubulopathy in children with diabetes involves a combination of vitamin D and phosphate supplementation, SGLT2 inhibitors, and insulin therapy. These treatments aim to correct metabolic imbalances, protect kidney function, and prevent complications. Understanding the underlying pathophysiology is crucial for developing targeted therapies and improving patient outcomes.

## ASSESSING EARLY HEART FAILURE IN HEMODIALYSIS PATIENTS: THE ROLE OF GLS VERSUS BNP

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**Relevance.** Cardiovascular complications remain a major cause of morbidity and mortality in hemodialysis patients. Early detection of cardiac dysfunction can significantly improve outcomes. Although B-type natriuretic peptide (BNP) is a standard marker, levels are often elevated in dialysis patients, limiting its specificity for early subclinical cardiac dysfunction. Global Longitudinal Strain (GLS) has emerged as a sensitive echocardiographic measure to detect subtle myocardial changes before the onset of overt clinical heart failure.

**Objective.** To evaluate the sensitivity of GLS in detecting early manifestations of heart failure compared with BNP levels in patients undergoing hemodialysis.

**Materials and Methods.** We enrolled 58 patients on chronic hemodialysis (mean age:  $42.5 \pm 8.5$  years). Data collection included session duration, ultrafiltration volume, blood pressure, and standard laboratory parameters. All participants underwent a comprehensive transthoracic echocardiogram with traditional parameters (e.g., ejection fraction) plus GLS assessment,

in addition to BNP measurement (mean level before dialysis:  $820 \pm 82$  pg/mL). Statistical analyses focused on correlating GLS findings with BNP levels and clinical indicators of cardiac function.

**Results.** While BNP levels were uniformly high across patients, GLS identified subclinical myocardial dysfunction with greater sensitivity. Patients whose GLS values indicated early left ventricular strain abnormalities did not necessarily show further elevations in BNP beyond already elevated baseline levels. This suggests that GLS may be more adept at detecting early cardiac changes in a population with consistently high BNP.

**Conclusions.** Global Longitudinal Strain is a valuable tool for identifying early heart failure in patients on hemodialysis and may offer greater sensitivity than BNP, which is often uniformly elevated in this group. Incorporating GLS into routine cardiac assessments could facilitate earlier intervention and improve outcomes in this high-risk population.