rehabilitation, and prevention involving specialists from various fields and taking into account all comorbidities.

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COMPARATIVE ANALYSIS OF ARTIFICIAL INTELLIGENCE VERSUS PHYSICIAN ACCURACY IN ANTIBIOTIC DOSING FOR HEMODIALYSIS PATIENTS: A RETROSPECTIVE STUDY

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Relevance. The promise of artificial intelligence (AI) models, like DeepSeek, to improve therapeutic decision-making and diagnostic accuracy has a lot of interest in their use in clinical care [1]. Even while AI models have demonstrated the ability to assess and summarise such complicated medical data, it is unknown how useful they are in the real world, including complex pharmacokinetics [2-3].

Target. The purpose was to evaluate the efficacy of doctor-made treatment recommendations against AI-generated ones, with a particular emphasis on compliance with manufacturer dosage recommendations and the amount of time AI takes to analyse information.

Research methods. The case histories of patients admitted to the intensive care unit at the University Clinic of Grodno in Belarus were gathered for the study. Patients on haemodialysis who have been diagnosed with renal failure and need antimicrobial treatment are eligible to be included. Patients with HIV, hepatic impairment, active hepatitis, and incomplete medical data are excluded. 38 patients in all underwent the initial screening. Among which 3 were eliminated, leaving 35 patients in total. Age, gender, GFR, comorbidities (COPD, pneumonia, or emphysema), and the prescription antibiotic regimen (drug, dose, and frequency) were all collected. DeepSeek LLM was used to process clinical data. For haemodialysis patients, manufacturer's stated dosing guidelines was considered the «gold standard» for accuracy. Among the reference databases examined were Tabletka.by (Republic of Belarus) and the Register of Medicines of Russia (RLSnet.ru). McNemar's test for paired nominal data was used to compare the performance of AI and physicians in terms of discordance.

Results and their discussion. 22 males and 13 females were in study population (n=35), mean age of 66.9 years and a mean GFR of 26.6 ml/min/1.73 m². 10 patients (28.6%) had concomitant conditions, COPD or pneumonia. By comparing the

recommended dosage with the manufacturer's handbook, accuracy was assessed. Just 4 out of 35 cases had doctors administer the right dosage in accordance with the instructions, compared to 18 out of 35 cases where the AI did so. To compare the two modalities, a paired analysis (McNemar's test) was conducted. In 4 cases, the doctor and AI administered the appropriate dosage. In 14 (40.0%) occasions, the AI was correct and the doctor was mistaken. In every case, the doctor was correct, and the AI was never incorrect. Neither the AI nor the doctor followed the strict manufacturer recommendations in 17 (48.6%) of the cases. The chi-square value was 12,07 (p=0,0005). It suggests a statistically significant difference in performance. The average time for the AI to analyse the clinical data and provide a prescription was 1 minute 49 seconds. A relatively low 11.4% of rate was attained by physicians. In 51.4% of the cases AI model accurately indicated the adjusted dose, demonstrating superior performance. However, both were incorrect in 48.6% of cases, showing that clinical judgements.

Conclusions. The use of DeepSeek and other large language models could greatly enhance antibiotic stewardship. Although the AI model did better than doctors in following manufacturer instructions (51.4% vs. 11.4%), its failure rate of 48.6% indicates that it is not yet dependable enough to operate on its own.

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PRODUCTION OF NITRIC OXIDE UNDER ADMINISTRATION OF NO-SYNTHASE MODULATORS IN RATS WITH PERITONITIS

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Relevance. The effects of altering NO synthase (NOS) have currently no interventions in treatment regimens for peritonitis, and the role of NO in pathophysiology of this illness is not understood. The role that NO generated by the various constitutive and inducible types of NOS plays a significant pathogenetic element of peritonitis in the emergence of nitrosative stress.

Target. To study the production of nitric oxide under administration of NOS modulators in rats with peritonitis.