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CLINICAL FEATURES OF LEPTOSPIROS DEPENDING ON THE DEGREE OF SEVERITY AND THE PRESENCE OF JAUNDICE.

Resume.

*Leptospirosis is a zoonotic disease of global importance with significant morbidity and mortality. However, the disease is frequently overlooked and underdiagnosed, leading to uncertainty of the true scale and severity of the disease. A neglected tropical disease, leptospirosis disproportionately impacts disadvantaged socioeconomic communities most vulnerable to outbreaks of zoonotic disease, due to contact with infectious animals and contaminated soils and waters. With growing evidence that *Leptospira* survives, persists, and reproduces in the environment, this paper reviews the current understanding of the pathogen in the environment and highlights the unknowns that are most important for future study. Through a systematic Boolean review of the literature, our study finds that detailed field-based study of *Leptospira* prevalence, survival, and transmission in natural waters and soils is lacking from the current literature. This review identified a strong need for assessment of physical characteristics and biogeochemical processes that support long-term viability of *Leptospira* in the environment followed by epidemiological assessment of the transmission and movement of the same strains of *Leptospira* in the present wildlife and livestock as the first steps in improving our understanding of the environmental stage of the leptospirosis transmission cycle.*

Keywords: *leptospirosis; Leptospira; environmental zoonoses; neglected tropical diseases; one health*

Leptospirosis is an acute infectious disease, a zoonosis, caused by various types of *Leptospira*. Among particularly dangerous natural focal diseases, leptospirosis remains the only infection that is registered and tends to increase in all administrative territories of Ukraine every year. In general, cases of leptospirosis are isolated. The total number of patients in individual years ranged from 15 to 58 people. Leptospirosis was first discovered in 1967, in the first years, as a rule, only severe icteric forms of the disease were detected, but with the improvement of the use of the indirect hemagglutination reaction (INHA) in laboratory diagnostics, it became possible to diagnose cases of non-icteric forms of the disease as well 1-3. In response to leptospirosis' status as a neglected tropical disease and the growing need to understand the environmental stage of the disease's transmission cycle, this review examines the literature, synthesizes the current understanding, and highlights future directions for further research. We will cover leptospirosis in the three major components of the environment: water, soil, and the organisms that facilitate the movement and transmission of the pathogen in the environment. In addition, we will also review how these components may differ along the urban-rural gradient. Due to the global extent of *Leptospira* and the impacts that leptospirosis has on human and animal health worldwide, our review will follow a broad, global discussion of the literature and findings.

Goal. To study the dynamics of leptospirosis in the population of the Chernivtsi region, the features of clinical symptoms and the consequences of the disease.

Materials and methods. 24 medical records of inpatients who were treated in the Chernivtsi infectious disease department during 2023 were processed. The analysis of the medical records of the patients included

clinical and laboratory tests, and for calculations - accounting and reporting documentation of the State Sanitation Service of the Chernivtsi region. for 2023

The results. During the studied period in the Chernivtsi region. 24 people fell ill with leptospirosis. The gender distribution was: women – 35%, men – 65%, respectively. The age of the patients mainly ranged from 28 to 64 years. The largest number of patients were hospitalized from August to October 2020 - 44.28% (corresponding to the seasonality of leptospirosis), the mortality rate of this pathology is 9%. By place of residence, rural areas prevailed over rural areas by 70.5 to 29.5, respectively. The majority of patients, namely 65%, noted that the day before they were engaged in fishing, drank water from untreated reservoirs, 25% noted that rodents live near them, and 14% did not associate leptospirosis with the above reasons. An increase in temperature to 38.5-39°C, headache was observed in 89% of patients. Myalgia, a frequent complaint of patients with leptospirosis, was present in almost all cases. The onset of the disease is acute, violent. The first symptoms: chills, headache, pain in the whole body, pain in the right hypochondrium, in the muscles, especially in the calves, dry mouth, thirst. 14 (28.57%) patients had repeated vomiting. 12 patients (14.28%) had manifestations of infectious-toxic shock with a drop in blood pressure to 90/50 - 60/40 mm Hg. Art. Phenomena of scleritis were found in 13 (21.42%) patients, bronchitis - in 19 (64.28%). In all patients, the coating of the tongue with thick layers, its dryness was noted, however, the characteristic hyperemia of the mucous membrane of the oral cavity was detected only in 18 (33.3%) persons. One of the leading symptoms of leptospirosis is liver damage with a moderate increase in its size (up to 2-3 cm below the costal arch, dense

consistency, somewhat painful). These changes are observed in both jaundiced and non-jaundiced forms of the disease. In the biochemical analysis, an increase in creatinine and urea, a decrease in the level of erythrocytes and hemoglobin was observed. Bilirubin remained within normal limits. The average number of spent bed-days is 22.28 days. Analysis of laboratory indicators: increase in the level of bilirubin by 50%, ESR - by 92.8%, decrease in the level of hemoglobin - by 42.89%. Isolation of *Leptospira* culture was carried out using microagglutination reaction, diagnostic titer 1:200. The most common serogroups were Pomona, Canicola, Habdoadis. The clinic was characterized by the following symptoms: increased body temperature - 92.8%, myalgia - 85.71%, scleral jaundice - 64.28%, headache - 57.14%, ARF as a complication - in 64.28%. Diagnosis was complicated by the presence of a concomitant disease - viral hepatitis - in 35.71%. The disease began acutely, the incubation period ranged from 7 to 14 days. The diagnosis was based on complaints and medical history. In 52%, the diagnosis was "Leptospirosis, jaundiced form, medium-severe course." In 11%, "Leptospirosis icteric form, medium-severe course" with concomitant pathology of chronic hepatitis B. In 27% of patients, leptospirosis was complicated by acute renal failure. They were transferred to intensive care and treatment. The average duration of treatment ranged from 14 to 325 days. All 24 cases resulted in full recovery of the patients.

Conclusion. Epidemiological situation of the spread of leptospirosis among the population of Chernivtsi region. is considered unstable, endemic. Compared to other years, the incidence rate has decreased, but the risk of the disease remains. Among the identified pathogens, *L. Habdoadis* is the most dangerous. The largest share of patients was men (71%). Atypical symptoms and concomitant diseases should be taken into account for timely diagnosis of leptospirosis. The main prevention measures include deratization, vaccine prophylaxis in the "occupational risk" group.

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