



MANAGING ACUTE LIVER FAILURE IN LEPTOSPIROSIS

Tamara Megrelishvili

Department of Infectious Diseases, the First University Clinic, Tbilisi State Medical University,
Tbilisi, Georgia

Leptospirosis is a widespread zoonotic infection caused by pathogenic spirochetes of the genus *Leptospira*. The disease is prevalent in tropical and subtropical regions, but sporadic cases are increasingly reported in Europe and the United States.

It presents in two major clinical forms: anicteric leptospirosis — a mild, self-limiting febrile illness— and icteric leptospirosis (Weil’s disease), which may progress to multiorgan involvement, including acute hepatic and renal failure. In Georgia, multiple *Leptospira* serovars have been identified, such as *L. icterohemorrhagica*, *L. automnalis*, *L. mankarsto*, *L. wolffii*, and *L. canicola*. Since 2011, the incidence of leptospirosis has increased significantly, reaching 1.81 per 100,000 population, with icteric and anicteric forms occurring at nearly equal rates (44.6% and 55.4%, respectively).

Icteric forms were frequently associated with hepatic and renal failure in approximately one-third of patients, while hemorrhagic manifestations and pneumonia occurred in 5.3% and 3.6% of cases, respectively. In 2023, a clinical study at the First University Clinic of TSMU investigated patients with prolonged fever exceeding five days and no catarrhal symptoms. Serological testing (IgM ELISA) confirmed leptospiral infection in 40 patients (64.5%), aged 17–80 years, from both urban (51.6%) and rural (48.3%) areas. The most common presentation was pneumonia (35.5%), whereas icteric forms were less frequent (12.9%).

These findings indicate that the epidemiological and clinical characteristics of leptospirosis have changed in recent years. The disease now more frequently affects urban populations and often manifests as prolonged febrile illness with lower respiratory involvement and intoxication syndrome. Severe cases are mainly complicated by acute respiratory failure, typically without multiorgan dysfunction. Early recognition and timely etiological diagnosis through serological testing are essential for appropriate management and prevention of complications.

Keywords: leptospirosis, acute liver failure, Weil’s disease, pneumonia, ELISA.