

Imasha J.M.D.S., Punyarathne H.N.D.
**IMPORTED DENGUE FEVER IN MINSK (BELARUS):
AN 8 YEAR RETROSPECTIVE OBSERVATIONAL STUDY**

Tutor: PhD, associate professor Ivanova M.A.

*Department of Infectious Diseases with Advanced Training and Retraining Course
Belarusian State Medical University, Minsk*

Relevance. Dengue fever (DF) is the most frequently imported arthropod-borne viral infection and a leading cause of febrile illness among travelers returning from tropical regions. The clinical spectrum of dengue varies from mild febrile episodes to severe, life-threatening manifestations associated with significant capillary leakage. A comprehensive understanding of dengue pathophysiology is essential for optimizing patient management and enhancing disease control strategies. In Belarus, DF is an imported infection; however, its diverse clinical presentations may lead to underrecognition by healthcare providers.

Aim: to analyze the epidemiological trends, clinical, laboratory, molecular characteristics, and diagnostic challenges of imported DF cases in Minsk, Belarus, over an eight-year period.

Materials and methods. A retrospective study of laboratory confirmed DF patients was conducted from March 2017 to January 2025 at Minsk City Infectious Disease Hospital. Epidemiological data such as the frequent travel destination, duration of travel, clinical manifestations including fever, rash, headache, myalgia, arthralgia, abdominal pain, bleeding; laboratory molecular and serological parameters, hemoglobin, hematocrit, white blood cells (WBC), platelets, ALT levels of imported DF were analyzed.

Results and their discussion. Twenty-six patients were confirmed to have DF through RNA, NS1 antigen and/or IgM/IgG detection. In total, only one had secondary infection. Viraemic DF presentations accounted for 53.8% (14/26) of cases. All four serotypes of dengue virus were found in collected patient's blood samples. The median age was 38 years (IQR 33–41). Most patients were females (53.8%, 14/26) and one of South Asian citizen. Southeast Asia was the most frequent travel destination (54.2%, 13/24) followed by South Asia (45.8%, 11/24). March–June was the peak season of presentation (38.5%, 10/26) followed by November–February (34.6%, 9/26). The median interval between onset of disease and hospital admission was 3 days (IQR 2–4). The most common signs and symptoms were fever (92.3%), headache (61.5%), rash (50.0%), myalgias (30.8%), diarrhea (19.2%) and arthralgias (11.5%). Leukopenia (84.6%), thrombocytopenia (65.4%) and altered ALT (61.5%) were the most common laboratory test's abnormalities. A Wilcoxon sign-rank test indicated that median discharge-day ranks for WBC and platelets were statistically significantly higher than the admission-day ranks ($Z = -3.85, p < .000$ and $Z = -1.96, p < .050$ respectively). No cases of severe DF were recorded.

Conclusion. Our epidemiological and clinical findings align closely with recent studies on imported dengue in Europe. While its symptoms resemble those of other arthropod-borne diseases, certain clinical characteristics may aid in distinguishing DF from other febrile illnesses in returning travelers. The global resurgence of dengue and other vector-borne infections highlights the urgent need to enhance integrated vector control strategies in endemic regions. Equally important is educating travelers from non-endemic areas about effective personal protective measures. Healthcare providers must improve their ability to recognize dengue infection and confirm diagnoses through laboratory testing. Further research is essential to deepen our understanding of both the clinical and public health implications of imported DF.