

UMS '23
SERIES



30 MARCH - 01 APRIL / MONA PLAZA Belgrade

EMERGING INFECTIOUS DISEASES:

Are we ready for new evolutionary challenges?

CONGRESS
PROGRAM

AND

E-ABSTRACT
BOOK

UMS
SERIES

23



30 MARCH

01 APRIL

CONGRESS
ABSTRACTS

LISTERIOZA - ZONOTSKI ASPEKT

Jasna Kureljušić¹, Nikola Rokvić¹, Ana Vasić¹, Marija Pavlović¹, Lidija Terzin²,
Dragana Ljubojević Pelić³, Suzana Vidaković Knežević³

1. *Naučni Institut za veterinarsvo Srbije, Janisa Janulisa 14, 11000 Beograd,*
2. *Opšta bolnica Đorđe Joanović Zrenjanin, Dr Vase Savića 5, 23101 Zrenjanin,*
3. *Naučni Institut za veterinarsvo Novi Sad, Rumenački put 20, 21000 Novi Sad*

Listeria monocytogenes je fakultativni, intracelularni, gram-pozitivni štapić koji je odgovoran za pojavu listerioze. Oboljenje obično nastaje konzumiranjem hrane koja je kontaminirana listerijom, posebno mlečnih proizvoda, lisnatog povrća, ribe i mesa. *Listeria* se može naći u domaćinstvu, restoranima i drugim mestima kao što su prodavnice ili fabrike za preradu hrane. Patogen je sveprisutan, jer se može naći u zemljištu, vodi i vegetaciji kao i u digestivnom traktu ljudi.

Namirnice koje imaju najveću stopu infekcija povezanih sa *L. monocytogenes* uključuju: sirove klice, nepasterizovano mleko, meki sirevi, hladno meso, hladne viršle i dimljeni morski plodovi. *L. monocytogenes* raste na temperaturama frižidera, tačnije, niske temperature indukuju enzime kao što je RNK helikaza koja poboljšava aktivnost i replikaciju *L. monocytogenes* na niskim temperaturama dok sposobnost proizvodnje biofilma povećava sposobnost *L. monocytogenes* da preživi u teškim uslovima. Ona takođe koristi flagele na nižim temperaturama koje joj omogućavaju da se pokreće i uhvati za enterocite u ranoj fazi infekcije koje se gube kada je bakterija duže izložena višim temperaturama. Ljudi koji su u najvećem riziku da budu pogođeni listeriozom su trudnice, mala deca, odrasli stariji od 60 godina i osobe sa oslabljenim imunološkim sistemom. Praćenje smernica za bezbednost hrane može smanjiti šansu za dobijanje i širenje listerioze.

Nadzor listerioze kod ljudi u EU se fokusira na invazivne oblike *L. monocytogenes* infekcija, koja se uglavnom manifestuje kao septikemija, simptomi slični gripu, meningitis ili spontani pobačaj. Dijagnoza listerijskih infekcija kod ljudi se generalno sprovodi kultivacijom uzoraka krvi, cerebrospinalne tečnosti i vaginalnih briseva ili detekcijom nukleinske kiseline. Prema Centru za kontrolu bolesti (CDC), otprilike 1.600 ljudi oboli od listerioze svake godine, a oko 260 ljudi umre od te bolesti. Bolest je najčešća kod trudnica, odojčadi, imunokompromitovanih i starijih (65 i više godina).



LISTERIOZA - ZONOTSKI ASPEKT

Trudnice su takođe izložene riziku jer mogu dobiti *L. monocytogenes* i preneti je na nerođeni fetus. Prema podacima EFSA Journal u 27 država tokom 2021.godine prijavljeno je 2.183 potvrđenih slučajeva invazivne listerioze kod ljudi u Evropi. Tokom našeg istraživanja u poslednjih pet godina ispitano je preko 5000 uzoraka. *L. monocytogenes* je izolovana i identifikovana u manje od 1% uzoraka i to u mesnih prerađevina (kao npr. dimljena hamburška slanina, viršla, mortadela, dimljena roštilj kobasica), u mlečnih prerađevina (sir), zatim uzorcima dimljenog lososa i briseva radnih površina u proizvodnim pogonima.

Naime subjekat u poslovanju hranom je u obavezi da shodno Pravilniku o opštim i posebnim uslovima higijene hrane u bilo kojoj fazi proizvodnje, prerade i prometa (Sl.gl.RS br.72/10) i Pravilnik o izmeni i dopuni Pravilnika o opštim i posebnim uslovima higijene hrane u bilo kojoj fazi proizvodnje, prerade i prometa (Sl.gl.RS br.62/18) i HACCP planu vrši ispitivanje na parametre bezbednosti hrane kojim se definiše prihvatljivost nekog proizvoda ili proizvodne partije u šta spada i *L. monocytogenes*.

LISTERIOSIS - ZONOTIC ASPECT

Jasna Kureljušić¹, Nikola Rokvić¹, Ana Vasić¹, Marija Pavlović¹, Lidija Terzin²,
Dragana Ljubojević Pelić³, Suzana Vidaković Knežević³

1. *Scientific Institute of Veterinary Medicine of Serbia, Janisa Janulis 14, 11000 Belgrade,*
2. *General Hospital Đorđe Joanović Zrenjanin, Dr Vase Savića 5, 23101 Zrenjanin,*
3. *Scientific Institute of Veterinary Science Novi Sad, Rumenački put 20, 21000 Novi Sad*

Listeria monocytogenes is a facultative, intracellular, gram-positive rod which is responsible for the occurrence of listeriosis. Illness is usually caused by eating food contaminated with listeria, especially dairy products, leafy greens, fish and meat. Listeria can be found in households, restaurants, and other places such as grocery stores or food processing plants. The pathogen is ubiquitous, as it can be found in soil, water and vegetation as well as in the digestive tract of humans. Foods that have the highest rates of *L. monocytogenes* related infections include: raw sprouts, unpasteurized milk, soft cheeses, cold meats, cold hot dogs, and smoked seafood. *L. monocytogenes* grows at refrigerator temperatures, specifically, low temperatures induce enzymes such as RNA helicase that enhances the activity and replication of *L. monocytogenes* at low temperatures while the ability to produce biofilms increases the ability of *L. monocytogenes* to survive in harsh conditions. It also uses flagella at lower temperatures that allow it to move and latch on to enterocytes early in the infection, which are lost when the bacterium is exposed to higher temperatures for longer.

The people most at risk of contracting listeriosis are pregnant women, young children, adults over 60, and people with weakened immune systems. Following food safety guidelines can reduce the chance of getting and spreading listeriosis. Surveillance of human listeriosis in the EU focuses on invasive forms of *L. monocytogenes* infections, which mainly manifest as septicaemia, flu-like symptoms, meningitis or abortion. Diagnosis of listeria infections in humans is generally performed by culture of blood samples, cerebrospinal fluid, and vaginal swabs or by nucleic acid detection. According to the Centers for Disease Control (CDC), approximately 1,600 people contract listeriosis each year, and about 260 people die from the disease. The disease is most common in pregnant women, infants, the immunocompromised and the elderly (65 and older). Pregnant women are also at risk because they can contract *L. monocytogenes* and pass it on to the unborn fetus.



LISTERIOSIS - ZONOTIC ASPECT

According to EFSA Journal data, 2,183 confirmed cases of invasive listeriosis in humans were reported in 27 countries in 2021 in Europe. During our research in the last five years, over 5000 samples were examined. *L. monocytogenes* was isolated and identified in less than 1% of samples, such as meat products (such as smoked Hamburg bacon, hot dogs, mortadella, smoked barbecue sausage), in dairy products (cheese), then in samples of smoked salmon and swabs of working surfaces in production facilities.

The subject in the food business is obliged to comply with the Rulebook on general and special conditions of food hygiene in every phase of production, processing and circulation (Official Gazette of RS No. 72/10) and the Rulebook on amendments and additions according to the Rulebook on general and special food hygiene conditions at any stage of production, processing and circulation (Official Gazette of RS No. 62/18) and the HACCP plan, testing of food safety parameters is carried out, which defines the acceptability of the product or the production batch, which includes *L. monocytogenes*.

UMS SERIES '23

30 MARCH
01 APRIL



www.nb.rs | НБ.СРБ



International Standard Book Number (ISBN)

Assigned number

ISBN-978-86-914897-9-3