

Listeriosis outbreak in South Africa: Are we winning the battle?



South Africa's listeriosis outbreak has topped the charts as the largest outbreak in history. The first reported case of the current outbreak of listeriosis was in January 2017. On 27 Feb 2018, the South African National Institute of Communicable Diseases (NICD) reported 945 confirmed cases, of which 176 had died (case fatality rate of

19%). Most reported cases were from Gauteng Province (59%, 555/945), followed by the Western Cape (12%, 116/945) and KwaZulu-Natal (7%, 66/945) provinces.¹ South Africa is not the only country experiencing outbreaks of listeriosis. Europe has been experiencing a multi-country outbreak since 2015, with a combined number of only 26 cases from Austria, Denmark, Finland, Sweden and the United Kingdom classified as a confirmed microbiological cluster on the basis of whole genome sequencing (WGS) analysis, including core genome multi-locus sequence typing (cgMLST) and single nucleotide polymorphism (SNP) based analysis, depending on the country. Four cases have died (case fatality 15.4%).²

NICD has advised the South African public that persons who are at risk of listeriosis should avoid processed, ready-to-eat meat products, soft cheeses, and unpasteurised milk and dairy products. In addition, processed, ready-to-eat meat products, such as viennas, polonies, russians, ham, other 'cold' meats, sausages, various corned meats, salami, pepperoni and similar products typically found in the processed meat sections of food retailers and butcheries, should be avoided, thoroughly cooked in boiling water, or heated at high temperatures of 70°C or higher before eating. In addition, listeria has been isolated from raw meat, dairy products, vegetables, fruit, seafood, soft cheeses, unpasteurised milk and unpasteurised pâté. However, some outbreaks involving post-pasteurised milk have been reported.⁴ Does this mean that the possible source(s) of the current outbreak lie within the processed ready-to-eat meat and dairy product food chain?

Listeriosis is a bacterial infection most commonly caused by *Listeria monocytogenes*. It primarily causes infections of the central nervous system (meningitis, meningoencephalitis, brain abscess, cerebritis) and bacteremia in those who are immunocompromised, pregnant women, and those at the extremes of age (new-borns and the elderly), as well as gastroenteritis in healthy persons who have been severely

infected. Its mode of transmission is via the oral route after ingestion of contaminated food products, after which the organism penetrates the intestinal tract to cause systemic infections. The diagnosis of listeriosis requires the isolation of the organism from the blood and/or the cerebrospinal fluid. Treatment includes prolonged administration of antibiotics, primarily ampicillin and gentamicin, to which the organism is usually susceptible.³

On 4 March 2018, a media statement by the South African Minister of Health, Dr. Aaron Motsoaledi shed the much-awaited information on the possible source of the current outbreak. He stated that as of 2nd March 2018, the number of laboratory-confirmed cases rose to 948, of which 180 had died (case fatality rate of 27%). In terms of the variety of food eaten by the affected individuals, majority reported having eaten ready-to-eat processed meat products, of which "polony" was the most common. *Listeria monocytogenes* was isolated from over 30% of the environmental samples collected from a meat-processing factory – "Enterprise" located in Polokwane. Another factory belonging to the same company located in Germiston confirmed *L. monocytogenes* in the samples, but the sequence type is not yet known.⁵

So how do we halt the current outbreak of listeriosis in South Africa? This is a difficult question as people readily eat processed ready-to-eat meat products on a daily basis. Consumer boycott of these products may result in the shutdown of this industry and job losses. However, if the current outbreak is to be halted, it will need a radical approach by the industry to vigorously analyse its products for listeria and for environmental health practitioners to intensify inspections of abattoirs, food processing factories and retail outlets. In the interim, the only safe option is to avoid consumption of ready-to-eat meat and dairy products implicated in the current listeria outbreak.

Prof. Gboyega A Ogunbanjo

Editor-in-chief: SAFPJ

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