Multistate Outbreak of Listeriosis Linked to ready-to-eat Meat and Subsequent Changes in South African Regulatory Policy

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Abstract

Background. Listeriosis, a life-threatening foodborne illness caused by Listeria monocytogenes, has been reported to affect ~ 2500 Americans annually. Between July and October 2002, an uncommon strain of L. monocytogenes caused an outbreak of listeriosis in 9 states. In South Africa, this appeared to be the first big outbreak that has killed approximately 100 peoples across the country. **Methods**. We conducted case finding, a case-control study, and traceback and microbiological investigations to determine the extent and source of the outbreak and to propose control measures. Case patients were infected with the outbreak strain of L. monocytogenes between December 2017 and June 2018 in 9 provinces, and control patients were infected with different L. monocytogenes strains. Outcome measures included food exposure associated with outbreak strain infection and source of the implicated food. **Results**. Over thousand case patients were identified; 180 died, and 3 pregnant women had fetal deaths. The case-control study included 200 case patients and 50 control patients. Case patients consumed processed meat much more frequently than did control patients (P =.008, by Wilcoxon rank-sum test). In the 4 weeks before illness, 55% of case patients had eaten processed pro meat (paloni) more than 1–2 times, compared with 28% of control patients (odds ratio, 4.5; 95% confidence interval, 1.3–17.1). Investigation of processed pork meat eaten by case patients led to several prok processing plants. The outbreak strain was found in the environment of 1 processing plant and in prok products from a second. Together, the processing plants recalled 5 812 tons of ready-to-eat processed meat. Following the outbreak, the South African National Department of Health, and includes the Department of Agriculture, Forestry and Fishery (DAFF), the Department of Trade and Industry, the National Institute for Communicable Diseases issued a conjoint new regulations outlining a L. monocytogenes control and testing program for ready-to-eat meat and poultry processing plants. **Conclusions**. The ready-to-eat processed meat was the source of a large multistate outbreak of listeriosis. Investigation of this outbreak helped guide policy changes designed to prevent future L. monocytogenes contamination of ready-to-eat meat and poultry products.