



## Outbreaks of food-borne disease – a common occurrence but rarely reported

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**To the Editor:** *Salmonella* infections are among the most prevalent recognised communicable diseases caused by bacteria, and a major cause of food poisoning throughout the world. The Enteric Diseases Reference Unit (EDRU) of the National Institute for Communicable Diseases (NICD) is a reference centre in South Africa (SA) for various enteric pathogens including *Salmonella*, and participates in national laboratory-based surveillance for *Salmonella*. Isolates are voluntarily submitted to the EDRU from ~120 clinical microbiology laboratories covering all provinces across the country. We report an outbreak of food-borne disease among schoolteachers at Rob Ferreira High School in White River, Mpumalanga, in December 2006, which occurred after eating food prepared by the school kitchen. The causative agent was identified as *S. enterica* serotype Virchow (*Salmonella* Virchow). Twenty-two bacterial isolates were obtained for analysis following culture from patients' rectal swabs. All isolates were susceptible to ampicillin, augmentin, trimethoprim, sulfamethoxazole, chloramphenicol, streptomycin, tetracycline, kanamycin, imipenem, nalidixic acid, ciprofloxacin, ceftriaxone and ceftazidime. Pulsed-field gel electrophoresis (PFGE) analysis of *XbaI* digested genomic DNA of bacteria revealed an identical pattern for all 22 outbreak strains which, together with identical antimicrobial susceptibility profiles for all isolates, determined that the outbreak was caused by a single strain of bacterium.

Isolates of *S. enterica* serotype Virchow is an uncommon serotype in the SA human population, accounting for only 25 of the 4 966 *Salmonella* isolates received by the EDRU from 2003 to 2005. In 2006, the EDRU received only 8 *Salmonella* Virchow isolates, on top of the 22 isolates associated with the outbreak

of food-borne disease. To the best of our knowledge, no published data have previously reported food-borne disease outbreaks associated with *Salmonella* Virchow in SA. However, there have been several reports worldwide.<sup>1-4</sup> Contaminated semi-dried tomatoes and fresh garlic were found associated with *Salmonella* Virchow food poisoning, the patients presenting with bloody diarrhoea and in some cases with bacteraemia.<sup>4</sup> Given the burden of HIV disease in SA, this is highly significant as *Salmonella* causes invasive disease in this group of individuals. Unfortunately, with regard to this report, we have no information of the meal prepared by the school kitchen and no particular foodstuff could be implicated since all the food was eaten and none remained for analysis.

Outbreaks of food-borne disease in humans are common in SA, but rarely reported. Any food poisoning incident involving  $\geq 2$  people is notifiable and should be reported to the relevant health authorities. However, as is the case in most countries worldwide, food-borne disease is markedly underreported. Outbreaks of food-borne disease should be thoroughly investigated. Clinical specimens and food samples should be taken and investigated. Patients and unaffected individuals should be questioned as to what was eaten, to highlight the foodstuffs that may have been responsible for the outbreak.<sup>5</sup> South Africa will host the Soccer World Cup in 2010, and medical practitioners must be aware of public health risks, including food-borne disease. Improved understanding of the burden of illness due to food-borne infections, the aetiological agents and the implicated foodstuffs will assist in preventing future outbreaks.

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