

Shigella at a wake in Adelaide, June 1998

Rod Givney,¹ Jack Darzenos,² Dianne Davos³

Thirteen out of 32 persons from two states who attended a lunch after a funeral in Adelaide on 2nd June 1998 became ill with diarrhoea. Most had onset of illness within three days but one case occurred eight days after and one 28 days after the lunch. The person whose illness commenced eight days after was the sister of one of the early onset cases and it was her boyfriend who became ill after 28 days. The duration of illness ranged from three to 10 days (mean=6.2 days) with reported symptoms in addition to diarrhoea being abdominal pain (11), vomiting (7) and macroscopic blood in the stool (3).

Only one person had a history of recent travel outside Australia before the funeral. This had been a medically uneventful trip to the Philippines six weeks previous. Similarly in the two months before the funeral one person had returned from southern Queensland, one from a trip to Western Australia and the Northern Territory and one from Western Australia only. Of these travellers only the third had suffered any illness during their travel. Six people came from Melbourne to Adelaide to attend the funeral.

Most of the food for the function was purchased the day before from the refrigerated counter of a retail outlet, transported for 20 minutes in the boot of a car and then refrigerated overnight in the kitchen of the flat where the lunch was served. During that night one item (sliced ham) was removed from the fridge and some of it used. The remainder of the ham was returned to the fridge. The person who handled the ham during the night had recovered earlier that week from a diarrhoeal illness contracted in the Kimberleys. The cause of this diarrhoea had not been determined.

S. sonnei Biotype G was grown from the stool of three of the cases (onset 2 days (n=2) and 8 days), *S. sonnei* not biotyped from one case (onset 28 days after the funeral) and *S. dysenteriae* Type 2 from the stool of one other case (onset of diarrhoea 1 day after the funeral). None of the other cases provided a stool specimen.

A cohort study implicated only the sliced ham of the foods served at the funeral lunch as a possible vehicle for this outbreak. Even including a probable secondary case (8 day incubation) who did not eat ham as a primary case and counting one of the early cases (who was not completely certain that she had eaten the ham) as a non-consumer, the relative risk was 2.77 (95% confidence limits 1.05-7.27). With these conservative case definitions the attack rate for ham eaters was eight out of 13 (62%). The more likely situation with the late onset case as a secondary case and accepting the history that the uncertain person's belief that she probably had eaten ham

gave a relative risk of 5.46 (95% confidence limits 1.40-21.27). The attack rate with these definitions was nine of 14 (64%).

The retailer from whom the ham was purchased is a large supplier which turns over multiple legs each week. Inspection of this premises two weeks after the funeral by an environmental health officer of the Adelaide City Council revealed no poor food handling practices. Laboratory cultures of ham collected at that time did not grow *Shigella*. If there had been a problem at or before the retail stage we would also have expected more metropolitan cases of *Shigella* notified unrelated to the funeral.

Our suspicion is that the person recently recovered from diarrhoea acquired in the north west of Australia who handled the ham the night before the funeral contaminated it. This person also consumed the ham but did not suffer further illness.

Some person-to-person transmission at the lunch was also possible. The meal was served to a large group of people in a very small flat and one person reported that the hand towel in the bathroom became sodden from hand wiping during the afternoon. The multiple *Shigella* isolates, especially in a metropolitan outbreak, are surprising but it seems unlikely that there would be multiple sources. Nevertheless the one isolate of *S. dysenteriae* came from a person who did not eat ham and who had a flu-like illness on the day of the funeral but developed prolonged (10 days) of diarrhoea the day after.

This is only the second *S. dysenteriae* Type 2 infection notified in South Australia since 1990. By contrast in 1997 and 1998 *S. sonnei* Biotype G has been the commonest *Shigella* notified. Before 1996 most cases of *S. sonnei* Biotype G were acquired overseas but only four of the 30 notified so far in 1998 had recent travel histories outside Australia.

Acknowledgments

Notifying doctors: S Hedges, B Kitchener, S Nield, C Teh. ClinPath Laboratories, Kent Town SA; Infectious Diseases Laboratories, Institute of Medical & Veterinary Science, Adelaide SA

1. Corresponding author: Communicable Disease Control Branch, Department of Human Services, PO Box 6 Rundle St Adelaide SA Phone 08 8226 7177 Fax 8226 7187 rod.givney@health.sa.gov.au
2. Environmental Health, Adelaide City Council
3. Australian Salmonella Reference Centre, Infectious Diseases Laboratories, Institute of Medical & Veterinary Science, Adelaide