

SHIGELLOSIS OUTBREAK IN A JEWISH COMMUNITY

BACKGROUND

On September 3, 2002, a physician alerted ACDC of a possible outbreak of shigellosis in the traditionally observant Jewish community in Los Angeles County (LAC). ACDC initiated an investigation to determine if there was an outbreak and if so, to look for a source of infection and decide whether control measures were indicated. Initial investigation revealed cases of *Shigella sonnei*, several of which were previously unreported.

METHODS

Case Definition: A case of outbreak-associated shigellosis was defined as: 1) a person with culture-confirmed *Shigella sonnei* living in specific census tracts with a high population of traditionally observant Jews, with onset between June 15, 2002 and August 4, 2002; or 2) a household contact to a confirmed case living in the above described census tracts with symptoms clinically compatible with shigellosis (a presumptive case).

ACDC requested a list of the children seen for shigellosis in the reporting physician's office. Cases were referred to district nursing staff for investigation and identification of contacts. ACDC requested that isolates from the physician's laboratory be sent to the PHL for strain typing by pulsed field gel electrophoresis (PFGE). Routine surveillance of shigellosis cases identified additional cases. Databases from 2000 and 2001 were reviewed for a baseline of shigellosis in the local traditionally observant Jewish community. District personnel managed confirmed cases and presumptive cases for additional follow up according to the Communicable Disease Manual (B-73).

RESULTS

The traditionally observant Jewish community resides mainly in certain census tracts of Service Planning Areas (SPA) 4 and 5. In 2000, there was one case reported in these census tracts. In 2001, there were three such unlinked cases.

Between June 15, 2002, and August 4, 2002, there were 13 cases with culture confirmed *Shigella sonnei* and 9 cases with presumptive shigellosis. These 22 cases were reported among 8 households in the traditionally observant Jewish community. All cases identified within the examined census tracts were members of the traditionally observant Jewish community. There was an average of 5.4 individuals in each household investigated. Of these cases, 55% were less than 5 years and 91% were less than 17 years of age; 68% were female. Fever, diarrhea and cramps were reported by all cases, leading 17 to seek medical care; 6 reported bloody diarrhea.

A total of 10 *S. sonnei* isolates were analyzed for PFGE patterns; 5 isolates had an indistinguishable pattern, 1 had a three-band difference, and 3 had a two-band difference. Patterns with two or three band differences were found within single households. The earliest cases occurred in a family with history of an uncle visiting from the Chicago area who had recently recovered from shigellosis prior to his visit. The isolates from this family were not available for PFGE.

DISCUSSION

Shigella sonnei is the most common serotype in community shigellosis outbreaks [1]. Younger children are at higher risk of becoming infected and contributing to transmission in day-care, preschool, family settings and the community. There have been previous outbreaks of shigellosis and hepatitis A in Jewish

communities in New York City; investigations of these outbreaks indicated many opportunities for person-to-person transmission. Visiting between communities also contributed to spread of disease [2,3].

Earlier outbreaks in other traditionally observant Jewish communities had *Shigella* isolates with PFGE patterns that differed by less than or equal to three bands. This meets the definition of a single *Shigella* type [3].

Interaction with a confirmed case by an individual or family members and attendance at a boys' summer day camp linked cases in this outbreak. PFGE results show that these cases were part of a single outbreak. A visit by a shigellosis case from another community may have initiated this outbreak.

Although one physician's office treated the majority of the cases, his office did not report the cases individually in a timely manner, which led to a delayed ACDC investigation. This may have contributed to further spread of shigellosis in this community.

REFERENCES

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3. Sobel, J, Cameron, DN, Ismail, NS, et al. A prolonged outbreak of *Shigella sonnei* infections in traditionally observant Jewish communities in North America caused by a molecularly distinct bacterial subtype. *J Infect Dis* 1998; May 177:1405-9.