



VANCOMYCIN-RESISTANT *ENTEROCOCCUS* (VRE) CLUSTERS AND OUTBREAK INVESTIGATIONS, 1995

The January 1995 *Public Health Letter* requested providers to report all isolations of VRE, including infections and colonizations. At least 15 acute care hospitals consulted with ACDC during 1995 because of VRE cases identified in their facilities. At least 11 skilled nursing facilities also became involved when many of these VRE patients were transferred out of the hospital. Eight health facilities reported clusters of patients with vancomycin-resistant *Enterococcus* in 1995. These are summarized below.

1. Hospital and skilled nursing facility (SNF), January 1995

Thirteen clinical isolates first reported as being *E. faecium* were re-identified by the Public Health Laboratory. Seven isolates were actually *E. faecalis*, while six were *E. faecium*. Molecular testing was not performed at that time. Vancomycin usage, which had been extremely high in both facilities, was targeted for reduction by the Infection Control and the Pharmacy Committees.

During the rest of the year the facilities continued to report one or two VRE cases per month. The investigation was re-opened in February 1996 when another cluster of cases occurred. Molecular analysis of five recent isolates and five 1995 isolates showed that seven were the same organism. Three of the 1995 isolates were the outbreak strain, demonstrating the organism has persisted for more than 15 months in these facilities. No additional studies are in progress at this time.

2. Hospital, March 1995

This hospital requested the assistance of the UCLA Microbiology Department to examine isolates from two patients with infections at unknown sites. Pulsed-field gel electrophoresis (PFGE) suggested that the organisms were related. Interestingly, UCLA noted that a third patient who had been transferred from this hospital also demonstrated the identical organism, suggesting that transmission of VRE had occurred.

3. Hospital, April 1995

Four VRE cases were detected in late April and early May. The first case was a central venous line culture with *E. faecalis*; his roommate was positive for the same organism when stool was screened. Two weeks later there were two patients whose urine showed VRE, but the species was not identified. No additional analyses were done. In October ACDC was informed that four additional VRE cases had been seen at this hospital, and all were felt to be "community acquired." None was speciated despite prior requests to do so because of the earlier cluster.

4. Hospital, May 1995 to present



A cluster of eight *E. faecium* infections occurred during two months in the spring of 1995. Over 20 cases were reported by the end of the year, of which 19 were *E. faecium*. Molecular studies were conducted by the hospital, but the results were not shared with ACDC. Attempts to control spread by standard infection control precautions were not successful. Additional VRE cases continued to be found in 1996, and the administrators have declared their facility endemic with VRE.

5. Hospital, May 1995

Two patients were detected with VRE during one week in May. The first was admitted from a SNF with enterococcus detected in the urine on the day of admission. The other had a urinary tract infection. Neither isolate was speciated or saved for analysis. ACDC was notified several weeks later.

6. Hospital, July 1995

A cluster of five patients with VRE was seen over six weeks at this hospital, but only the first two could be linked epidemiologically. The first patient had *E. faecalis* isolated from blood, wound, and stool. His roommate had an enterococcal species identified in the stool on a surveillance culture. Three weeks later a third patient had *E. faecium* in the tracheostomy and the stool. A fourth patient with *E. faecium* in the urine could not be linked to the third patient but had been in the same SNF as the second patient. The fifth case was a one-week-old infant being evaluated for sepsis. A single blood culture revealed *E. gallinarum*; this was felt to be a contaminant, but its source was not determined. The child did well without antibiotics.

7. Skilled nursing facility, November 1995 to October 1996

This long-term care facility identified over two dozen patients with *E. faecalis* and seven others with *E. faecium*. No distinction was made between colonization and infection. No special studies were conducted.

8. Hospital, November 1995

Over a five-month period this hospital reported four patients with VRE. Only one isolate had been speciated, and none remained for re-testing. No conclusions could be drawn.

COMMENTS

Since the first outbreak of VRE in Los Angeles County (see 1994 Special Reports), the interest in resistant enterococci has increased markedly. Numerous hospitals, skilled nursing facilities, and laboratories are requesting information or reporting cases to ACDC. However, isolation of the organism is often accidental, surveillance screening is haphazard, and reporting is frequently delayed. In many clusters, isolates have not been saved, as cases are detected at intervals that exceed the maximum retention time for most labs. Until laboratories



routinely speciate enterococcal isolates, and do so correctly, it will be difficult to advise health facilities regarding VRE clusters. Among the clusters discussed above, only three (#1, 2, 4) were assessed sufficiently to be able to conclude that an outbreak had occurred; two of those (#1, 4) are still ongoing as of October 1996 and those facilities are considered endemic. Two clusters (#6, 8) appear to have been coincidental isolation of endogenous VRE.