Vancomycin Resistant Enterococci (VRE)

Cause/Epidemiology

Enterococci are bacteria that are normal flora in the gastrointestinal tract of humans. They may also colonize the vagina, oral cavity, perineal area, hepatobiliary tract and upper respiratory tract. Human feces contain the greatest quantity of enterococci, and the fecal-oral route is the usual route of transmission. Enterococci seldom cause severe infection, but immune-suppressed individuals or those with central vascular lines may be at risk for infection with these bacteria. Enterococci may also contaminate open wounds creating a reservoir for the organism. *E. faecalis* is responsible for the majority of infections caused by enterococci, while *E. faecium* has greater intrinsic resistance to multiple antibiotics and is the most commonly detected Vancomycin Resistant Enterococci (VRE).

Enterococci have always had inherent resistance to many antibiotics and can readily acquire resistance to additional antibiotics. VRE are enterococci that have acquired resistance to vancomycin, the drug of choice for treating multi-drug resistant enterococci infections. **VRE is neither more pathogenic nor more virulent than other enterococci.** (E.g. it is not more likely to cause infection, nor does it cause more serious infection than other enterococci). Historically, there was a concern that VRE would be untreatable, cause many deaths, and share its resistance genes with other organisms. After over 20 years of experience with VRE in Canada, colonization with these strains has been common in many settings, but infections are infrequent. There are now several effective antimicrobials available, and transfer of resistance genes to MRSA has seldom been observed.

After careful and critical review of information gathered from other jurisdictions in Canada who have discontinued measures for VRE, Manitoba Health Seniors and Active Living (MHSAL) Antimicrobial-Resistant Working Group recommended discontinuation of all existing VRE control measures. This includes but not limited to:

- No VRE screening on admission for contact management or prevalence screening purposes.
- No contact precautions for VRE Positive or Suspect.
• No flagging and subsequent deflagging of health records of VRE Positive or Suspects (acute care facilities are asked to deflag individuals currently identified as VRE Positive or Suspect).
• No special infection prevention and control measures for home visits, discharge or transfer of VRE Positive or Suspects including specific areas of health care facilities, (e.g. operating room, rehabilitation).

This change in provincial direction does not change the way VRE is managed in the LTC sector; in fact it aligns the practices in acute care more closely with the management of VRE in LTC and community settings.

Clinical Presentation

VRE may inhabit a host and cause no discernable problems. VRE infection can occur throughout the body with the most common body sites being the urinary tract, and bloodstream.

Incubation

The incubation period is variable and indefinite. Occurs commonly around 4 -10 days after exposure.

Transmission

Transmission occurs by direct contact on hands of healthcare workers and by indirect contact with inanimate objects or environmental surfaces (e.g., lift slings, bedrails). Healthcare workers hands can become transiently colonized while performing care, when removing gloves, or when touching contaminated equipment/surfaces. If health care workers provide care for other residents without performing hand hygiene, VRE can be transmitted.

VRE colonization is considered indefinite. Therefore, once a resident is colonized with VRE, they will always be colonized with VRE.

**Preventing transmission of VRE requires adherence to Routine Practices, with particular attention paid to hand hygiene. Additional precautions are not required.**
Infection Prevention and Control Practices

Special precautions are no longer required for VRE. Current evidence shows the presence of VRE (i.e., colonization) rarely leads to serious infections. VRE infections can be treated with antibiotics without isolating the person.

Occupational Health

Healthcare Worker
- Healthcare workers colonized with VRE have no modification or work restrictions required
- Healthcare workers with active VRE infection should follow the advice of their healthcare provider.

References

Manitoba Health Seniors and Active Living. Guidelines for the Prevention and Control of Antimicrobial Resistant Organisms. (August 23, 2016)
http://www.gov mb.ca/health/publichealth/cdc/docs/ipc/ar o.pdf