HICMR
HEALTHCARE INFECTION CONTROL MANAGEMENT RESOURCES

HICMR INFORMATION SHEET NOVEMBER 2010:
VANCOMYCIN RESISTANT ENTEROCOCCUS (VRE) V2 (Nb. replaces V1)

1. What Is Vancomycin, Enterococci and VRE

- **Vancomycin** is an important antibiotic because it is used in healthcare facilities as the main treatment for a range of serious infections.
- **Enterococci** are bacteria that are naturally present in the intestines of most humans and animals. Enterococci are normally harmless.
- **VRE**. Some strains of enteroccoci have become resistant to Vancomycin and can no longer be treated with same. These resistant strains are called "Vancomycin Resistant Enterococci" or VRE for short. There are two types of VRE based on the resistance genes (vanA and vanB). Both are found in two different species of enterococci (Enterococcus faecium and Enterococus faecalis).

2. Why Is VRE Important and Who Is At Risk??

The emergence of VRE poses issues and concerns, including:

- ✓ The lack of appropriate antibiotics for the treatment of VRE infections, as VRE is resistant to multiple antibiotics.
- ✓ Transferring of the resistant genes from VRE to other organisms such as Staphylococcus Aureus.
- ✓ Hospitalised patients are at an increased risk of acquisition and colonisation with VRE if they share a room with a VRE colonised patient; have multiple antibiotics, and/or a prolonged length of stay.
- ✓ Patients who are colonised are more likely to acquire VRE infection during their stay if they are critically ill; receiving renal dialysis, in Haematology/Oncology Unit, undergoing surgery for transplant/cancer/implant.
- ✓ Colonised patients with diarrhoea or faecal incontinence, enterostomies or an IDC are more likely to contaminate the environment and HCW hands.

3. VRE In Australia

- The first detection of a VRE infected patient was in Victoria in 1994. In the late 1990s colonisation and infection of patients with VRE has spread in healthcare facilities in every Australian state and territory
- VanB strains of VRE are the commonest problem in healthcare facilities in Australia.
  - References: NHMRC: *Australian Guidelines for the Prevention and Control of Infection in Healthcare 2010*. Commonwealth of Australia
  - CDC: Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006.
  - Individual State Health Dept Guidelines for Multi-resistant Organisms/VRE.
- Antibiotic Stewardship Programs are encouraged to improve antimicrobial prescribing, thereby enhancing individual patient care and slowing the spread of antimicrobial resistance.

4. How Is VRE Spread?

- ❖ The most common way VRE can be spread is via hands of patients, HCWs and visitors.
- ❖ HCWs can spread VRE-utilising poor hand hygiene (HH) practices, including:
  - Touching the patient who is colonised or infected and/or the patient's environment/equipment, and not performing HH before attending to the next patient.
  - Touching a colonised/infected patient and/or their environment and not performing HH or changing gloves between specific procedures, eg. washing patient then accessing IV line.
- ❖ Patients colonised/infected with VRE can spread VRE to others or themselves by not washing their hands, particularly after going to the toilet/touching own wounds/IV lines, etc.

5. Transmission Based Contact Precautions for VRE

- Hand hygiene (HH) as per HHA *'5 Moments For Hand Hygiene'* should be performed each time HCWs enter and leave the patient's room, before and after every patient contact; before and after contact with the patient's environment and equipment, before and after any aseptic procedure, and before and after glove use. Nb. HH/wearing of gloves should be procedure and site specific.
- Gloves and aprons/long sleeved disposable gowns should be used when patient contact is anticipated. PPE should be removed prior to leaving the room and HH performed. Masks/eyewear/facewear should be worn as per Standard Precautions, refer HICMR Policy.
- Patients should be placed in a single room with ensuite, and educated re HH. Visitors should also be informed and perform HH prior to entering/leaving the room.
- Patient rooms should be regularly cleaned during their stay, with attention to high touch surfaces. The room/equipment should also be disinfected on discharge with TGA approved disinfectant as per state/manufacturer's guidelines, eg. chlorine based. Nb. Follow the manufacturer's instructions regarding application/ surface contact time, and rinsing to obtain adequate disinfection.
- Equipment should be dedicated to the patient, or cleaned thoroughly between patient use/s. Avoid excess stock in patient rooms.
- Crockery, cutlery, and waste and linen should be treated as normal.
- Surgery/Diagnostic Procedures: A Risk Assessment should be performed, and above adapted to reduce transmission, eg. remove excess equipment prior, wear PPE, perform HH, and ensure thorough cleaning after the case. Focus should be on cleaning and disinfecting frequently touched surfaces, (eg. patient trolley) and equipment in immediate vicinity of patient. Consumable stocks should be kept to a minimum in OT. Nb. Consider placing patient last on the list to allow preparation and cleaning time.
- Refer HICMR IC Policy: *Multi- Resistant Organisms (MROs), Including MRSA and VRE.*

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