

VANCOMYCIN-RESISTANT ENTEROCOCCI IN A SINGAPORE TEACHING HOSPITAL PRIOR TO 2005

Dear Sir,

Sporadic cases of vancomycin-resistant enterococci (VRE) infection and colonisation have been reported from Singapore's hospitals for many years. We would like to report our experience with testing for VRE at the National University Hospital (NUH), a 900-bed teaching hospital in Singapore.

Since 1999, all clinically-significant isolates of *Enterococcus faecium* and *E. faecalis* from blood, urine and wounds were tested for vancomycin susceptibility. Apart from disc testing, the use of enterococcosel agar containing 6µg/L of vancomycin⁽¹⁾ and the use of Vitek automated systems were introduced during this period. Our findings are as follows:

VRE (MIC ≥32µg/mL)

Year	No. of isolates
1999	0
2000	0
2001	0
2002	0
2003	1
2004	4

Each case was investigated, contact traced and found to be epidemiologically unrelated. All five patients had recently been in other hospitals, either overseas or local. Strict isolation was applied. Microbiological investigation suggested that local spread at NUH was unlikely.

In some US institutions, VRE has become endemic, requiring maintenance management rather than ongoing eradication attempts⁽²⁾. Experience from Australia⁽³⁾ however shows that VRE can be eradicated from a city early in an outbreak through:

- Upgraded attention to barrier/contact precautions and hand-washing compliance
- An unwavering top-down commitment to eradication within the health institutions
- Mass screening of hospitalised patients with isolation and cohorting of patients
- Environmental screening and cleaning

In addition, island-wide electronic tagging system of carriers and perhaps contacts would likely assist control between Singapore's hospitals.

Preventing the establishment of endemic VRE in a hospital requires routine screening and short term isolation of high risk patients from hospitals where VRE has become endemic. Longer term isolation is required for those with positive cultures. The optimal situation in Singapore would be a return to where there are only rare sporadic cases in all our hospitals.

Although an earlier study from NUH had reported a higher incidence of VRE⁽⁴⁾, the vast majority of those cases were *E. gallinarum* which is an uncommon cause of serious clinical infections and has not been associated with outbreaks⁽⁵⁾.

We are strongly supportive of current efforts to prevent VRE from becoming endemic in Singapore hospitals. The consequences of failure would be associated with evolution from a monoclonal outbreak strain to polyclonal endemicity⁽⁶⁾. Additional costs incurred in preventing the establishment of endemic VRE are a prudent, cost-effective investment⁽⁷⁾.

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EDITOR'S NOTE

Since its identification on 9 March 2005 in a 75-year-old patient warded at the Singapore General Hospital (SGH) and subsequent detection of other cases, vancomycin-resistant enterococci (VRE) has received considerable attention in the local and international press. Several questions about VRE have also been raised at the sitting of the Singapore parliament on 18 April 2005.

This hospital-based outbreak has again re-emphasised that there is no substitute for adhering to the basic principles of good practices, namely: rational usage of vancomycin and other antibiotics, good surveillance for hospital-acquired infections, and sound infection control principles such as prompt isolation of patients with infectious diseases, barrier nursing and hand washing.

The Singapore Medical Journal (SMJ) is pleased to publish, in this issue, a letter reporting the experience of VRE testing at the Departments of Medicine and Laboratory Medicine, National University Hospital. This letter was submitted in response to the SGH outbreak and contains valuable recommendations.

The SMJ will continue its policy of giving priority to publishing letters on topics of current interest to our medical community.

Professor Wilfred C G Peh

Editor

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