

Phenotypic and Genotypic Characterization of Vancomycin Resistant *Enterococcus faecium* (VRE) Isolated in a General Hospital in Argentina.

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Background: After detecting 2 episodes of VRE sepsis, a surveillance program was developed using rectal swabs in all admitted patients. Between June 1998 to June 2000, 106 out of 1479 patients studied developed VRE. All but 8 were colonized without clinical infection (blood 3, urine 2, other 3). Mean age was 67 years (range, 19-91). 79 representative isolates were analyzed: 30 in 1998, 32 in 1999 and 17 in 2000. Aim: (i) to determine the resistance patterns (RP) to ampicillin (AMP), teicoplanin (TEI), vancomycin (VAN), gentamicin (GEN), streptomycin (STR), tetracycline (TET), chloramphenicol (CMP), erythromycin (ERY) and ciprofloxacin (CIP); (ii) to characterize the resistance mechanisms to glycopeptides, (iii) to determine the clonal distribution. **Methods:** The MIC's were determined by agar dilution according to NCCLS. PCR was used to detect glycopeptide resistant genes. The clonal relationship among isolates was determined by analyzing the *Sma*I macrorestriction patterns obtained by PFGE. **Results:** RP were: AMP 100%, TEI 100%, VAN 100%, GEN 59.5%, STR 100%, TET 12.7%, CMP 5.1%, ERY 100%, CIP 96%. All isolates were *Van-A*. Most strains belonged to 3 major clones: A 37.9%, B 22.8%, C 12.6%. The others were distributed among 15 different types. Clone A increased its incidence in '99 and decreased in '00; clone B, initially predominant, diminished in '99. The low incidence of clones A and B in 2000 was in contrast with the emergence of new lineages. **Conclusions:** 1) Resistance to alternative antibiotics was high, 2) the decreases of clones A and B in 2000, and the rare clinical infections show that adopted preventive measures (continual surveillance to identify carriers, isolation or cohorting of patients, maximization of hygienic measures and restrictions on invasive procedures) were effective. 3) The emergence of new clones suggest antibiotic pressure selection.