

عنوان مقاله:

Prevalence and Removal Efficiency of Enterococcal Species and Vancomycin-resistant Enterococci of a Hospital Wastewater Treatment Plant

محل انتشار:

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خلاصه مقاله:

Simultaneous presence of various antibiotics and bacteria in hospital wastewaters creates a suitable environment, in which the bacteria, such as enterococci become resistant to the antibiotics. The aim of this study was to evaluate the performance of different units of the hospital wastewater treatment plant (HWTP) to remove *Enterococcus* spp and Vancomycin-resistant *Enterococcus* (VRE). The study was performed on the 27 samples collected from HWTP in Hamedan, Iran during December 2014 to August 2015. *Enterococcus* spp and VRE were identified by biochemical tests and then the isolates were confirmed by PCR. Finally, the antibiotic susceptibility test was performed using disk diffusion methods. Of the 27 samples examined, 315 a total of enterococcal isolates were obtained. Of the 315 isolates of enterococci investigated, 162 (51.42%) were identified as *E. faecium*, 87 (27.61%) as *E. hirae*, 35 (11.11%) as *E. faecalis*, 11 (3.5%) as *E. gallinarum*, 7 (2.22%) as *E. casseliflavus*, 4 (1.26%) *E. avium*, and 9 (2.85%) isolates VR *E. faecium*. The results of antibiotic susceptibility testing showed that of the total 315 isolates, 146 (46.34%) were resistance to tetracycline, 9 (2.85%) were resistance to vancomycin and Teicoplanin. Lower antibiotic resistance was seen with Nitrofurantoin 2 (1.26%). This study indicates a high prevalence of multidrug resistance among *E. faecium* isolated from HWTP, thus, it could be considered as a threat to the health and safety of wastewater workers and even public health.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1912186>

