

The Impact of an Intensive Antimicrobial Control Program in a Taiwanese Medical Center.

吳姿樺,張明聰

Chang MT;Wu TH*;Wang CY;Jang TN;Huang CY

Abstract

OBJECTIVE: The study evaluates the short term impacts of an intensive control program for the appropriate use of antimicrobials, and to provide a novel strategy for antimicrobial control in inpatient wards in Taiwan. **METHOD:** In September 2002, a dual intensive antimicrobial control program was implemented within a 921-bed medical center in Taiwan. The study sample included all patients admitted to the medical center during the basal period (October-December 2001) and the intervention period (October-December 2002), where at least one type of parenteral antimicrobial was administered. The sample comprised of 5046 patients during the basal period and 5054 patients during the intervention period. **MAIN OUTCOME MEASURE:** Analysis of the impact of the intensive antimicrobial control program was undertaken by comparing clinical outcomes, parenteral antimicrobial consumption and bacterial susceptibilities, before and after the establishment of the intensive antimicrobial control program. **RESULTS:** No statistical differences were found between the basal and intervention periods with regard to either the demographic variables, such as age and gender, or the incidence of nosocomial infections. The clinical outcomes, including length of stay in the medical center, mortality and readmission rates, were also similar for both periods. As compared to the basal period, the consumption of parenteral antimicrobials--in defined daily doses (DDDs) per 100 patient days (PDs)--declined by 13.2% during the intervention period (71.2 vs. 61.8). There were significant increases in the susceptibilities of *Pseudomonas aeruginosa* to both amikacin and ciprofloxacin, and *Serratia* spp. to ciprofloxacin ($P < 0.05$), while all others remained stable. **CONCLUSION:** This study reports positive responses to intensive antimicrobial control measures among health professionals within a Taiwanese medical center. Following the implementation of the intensive control program, both prescriptions and consumption levels of parenteral antimicrobials were reduced without compromising the clinical outcomes of patients, while the susceptibility patterns of bacterial organisms mostly remained stable. Long-term control of parenteral antimicrobials under such a program may well produce significant benefits for inpatients through the overall rationalization of antimicrobial usage, leading to

potential reductions in both the incidence of adverse effects and the burden of resistant organisms. A method of incorporating this intensive control program into a computerized prescription order system is currently under construction.