Piperacillin-tazobactam infusions were administered faster than recommended during implementation (i.e., peri-EI) despite standardized orders” J Rhodes et al 92019).

Abstract:

Compliance with recommended infusion rates was evaluated before, during, and after the implementation of extended-infusion (EI) piperacillin-tazobactam at an academic medical center. Software-controlled infusion-pump alert data were studied for piperacillin-tazobactam administrations before and after implementation of a four-hour EI protocol. Compliance was analyzed 16 weeks before (pre-EI), two weeks after (peri-EI), and an additional 16 weeks after (post-EI) protocol implementation. We defined potential harm as a programmed infusion rate exceeding the recommended rate, possible harm as a programmed infusion aborted by the user, and compliance as reversion to recommended rates. Potential and possible harm were standardized to 1000 patient days. Overall, 3110 alerts were identified during the period. Potential harm per 1000 patient days for pre-, peri-, and post-EI were 0, 6.12, and 1.05 (p < 0.001). Possible harm per 1000 patient days for the pre-, peri-, and post-EI were 0.33, 21.9, and 5.02 (p < 0.001). Compliance after an initial potential harm alert occurred more often post-EI (0.4 per 1000 patient days vs. 0 per 1000 patient days for pre- and peri-EI; p < 0.001), while alerts remaining in non-compliance were more prevalent if they initially occurred during the peri- and post-EI vs. pre-EI (6.1 and 0.6 per 1000 patient days vs. 0 per 1000 patient days; p < 0.001) period. Piperacillin-tazobactam infusions were administered faster than recommended during implementation (i.e., peri-EI) despite standardized orders.
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