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Increasing incidence of methicillin-resistant Staphylococcus aureus skin and soft-tissue infections: reconsideration of empiric antimicrobial therapy.

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BACKGROUND: Community-acquired methicillin-resistant Staphylococcus aureus (MRSA) rates are at an all time high. MRSA rates as high as 60% have been reported in patients presenting with skin and soft-tissue infections (SSTIs). Our objectives were to (1) examine the incidence of MRSA over a 7-year period in surgical patients with SSTIs, (2) examine the choice of empiric antibiotic therapy, and (3) evaluate the vancomycin minimum inhibitory concentration (MIC) in MRSA isolates. METHODS: The medical records of all patients who underwent operative debridement of SSTIs from 2000 to 2006 were retrospectively reviewed. Demographic data such as age, race, and gender as well as co-morbid risk factors were collected. Preoperative American Society of Anesthesiologists (ASA) score, temperature, WBC, creatinine, HgbA1c, albumin, and empiric antimicrobial of choice were also included. Microbiology of all operative cultures was recorded. Available vancomycin MIC data were collected. All data are presented as mean +/- standard error of the mean. A chi-square test was used for statistical analysis. RESULTS: From 2000 to 2006, 288 patients with operative debridement for SSTIs were identified. The mean age was 54 +/- 11 years. Fifty-two percent of patients had diabetes mellitus, 55% were tobacco users, 34% alcohol users, and 23% had hepatitis C. The mean temperature at presentation was 99.2 degrees +/- 1.5 degrees F. The mean white blood cell count was 13.8 +/- .9. The mean HgbA1c was 8.6 +/- 2.5. The mean body mass index was 30.1 +/- 8. Sixty-seven percent of patients had an ASA > or = 3. There was a significant increase in MRSA SSTIs in 2006 (77%) compared with 2000 (34%, P < .001). Correspondingly, there was a significant increase in empiric administration of vancomycin in 2006 (93%) compared with 2000 (18%, P < .001). The examination of vancomycin MIC shows a shift for MRSA isolates over this time period (MIC < or = .5 microg/mL, 62%, MIC = 1 microg/mL, 7%, and MIC = 2 microg/mL, 31%). CONCLUSION: Our study shows a significant and ongoing increase in the incidence of MRSA in patients with SSTIs. Empiric coverage with an MRSA antimicrobial should be used as first-line therapy. However, given the observed increase in vancomycin MIC, alternative MRSA antimicrobials should be considered.

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