Introduction

Urinary tract infections (UTIs) are the most common infections occurring in hospitalized and extended care settings. Many of these UTIs are recurrent, chronic or associated with the risk of developing advanced urothelial cancer. UTIs also have become more prominent and hardships of stay have increased due to the severity of diseases. Antimicrobial resistance has increased not only among patients presenting nosocomial infections, but also in patients on chronic treatment with antimicrobial therapy. Resistance to various classes of antibiotics is a major problem in the treatment of hospitalized and non-hospitalized patients. This resistance is originating from urinary tract infections complicated near 15% of all nosocomial bloodstream infections (BSI).

To address the problem of increasing antimicrobial resistance, surveillance programs are necessary both locally, nationally, and globally. Data on frequency of pathogen occurrence and resistance to commonly prescribed antimicrobials is a cornerstone for the empirical treatment of patients with antimicrobial agents.

In the present overview, we report the results of the European SENTRY Antimicrobial Surveillance Program for the year 2000 with regard to the rate of resistance against different antimicrobial agents in pathogens causing UTI and compare the rates of resistance with those species cultured from BSI to determine whether there are any differences in resistance pattern between these pathogen groups.

Materials and Methods

The SENTRY Program is a global surveillance system which monitors the frequency of occurrence in an antimicrobial susceptibility of both nosocomial and community-acquired bacterial pathogens on an international network of sentinel hospitals that are distributed roughly equally by site and location. Data are received from 11 European countries: Austria, Belgium, Bulgaria, France, Germany, Italy, the Netherlands, Poland, Portugal, Switzerland, and the United Kingdom. Each isolate was accompanied by demographic data, including the genus and species name and methods of identification. All isolates were identified to a central laboratory (See, USA). Ligate except, isolates were subcultured on blood agar to ensure purity. isolates identified only if necessary, using the Vitek or reference methods.

The definitions of pathogen occurrence by national was: Belgium (45), France (51), Germany (54), Ireland (49), Italy (50), Poland (52), Portugal (41), Switzerland (40), and the United Kingdom (45). All susceptibility testing used methods described by the NCCLS (1999) and were interpreted by the most recent MCL (2001). QC (2000). General quality control of the Repli control panels were prepared by TREK (Princeton, NJ). E. coli BCC 8814, P. aeruginosa ATCC 6061, B. cepacia ATCC 13262, S. pyogenes ATCC 19481, A. baumannii ATCC 49501, ambient. QC plating was done by NCCLS (1999). In both UTI and BSI, 25% of Gram-negative bacteria were resistant to amikacin. A 25% of amikacin-resistant bacteria were identified for both UTI and BSI, 25% of the isolates were resistant to at least one agent and amikacin.

Results

Compared to 1997-98 UTI pathogen prevalence data, enterococci were isolated in significantly greater numbers (12.05%) in 2000 (13.45% versus 7.97%, Table 1). The most prevalent agent was E. coli, followed by Klebsiella spp. Enterococcus faecalis, P. aeruginosa, and E. coli were the most prevalent isolates (25%). Enterococci, predominantly Enterococcus faecalis Enterococcus faecalis, and E. coli were considered as significant pathogens in UTI and BSI.

Conclusions

The data obtained from the study have shown that there is a high prevalence of resistance in both UTI and BSI, which is concerning. This highlights the importance of continued surveillance and monitoring of antimicrobial resistance patterns.