Study of antimicrobial resistance, ESBL production and hemolysin production in uropathogenic *E. coli*

Pallavi Wanjari, Yagnesh Thakar, Vinay Tule and **Avinash Upadhyay**
Vishakha Clinical and Microbiology Laboratory, India

The study comprises of a total 125 *Escherichia coli* strains serially isolated from patients of urinary tract infection. Out of these; 78 (62.4%) were from female, 35 (28%) from male while 12 (9.6%) from girl children. These strains were identified using Vitek 2 automated identification system (bioMeriux). Hemolysin, an important virulence marker was studied by using sheep RBC's. Hemolysin production is seen in 18 (14.4%) isolates. The drug resistance was determined by Kirbey Baur disc diffusion method, the drug sensitivity profile revealed that the sensitivity was excellent to Imipenem and Meropenem (99.02% each) followed by Amikacin Nitrofurotoin and Levofloxacin (94.4% each. It was fair to Gentamycin (84.4%) and Ceftazidime (80%) while sensitivity was poor to tetracycllin (68.5%), Cefixime (44.8%), Cefuroxime (44%), Ciprofloxacin (43.2%), Amoxycillin+Clavulanic acid (32.5%), Ceftriaxzone (37.3%), Co- trimaxazole (28.8%) and Ampicillin (28.8%). Extended spectrum beta lactamase (ESBL), an important mechanism by which organism confers resistance to Penicillin and cephalosporin's groups of antibiotics were detected by double disc synergy. ESBL production was seen in 34 (27.2%) strains indicating their high potential to develop multi drug resistance. The finding suggests that UTI is common in female. The *E. coli* are resistant to many antibiotics. The strains are capable of producing virulence marker i.e., hemolysin as well as the production of ESBL which precludes the use of penicillin and cephalosporin's group of drugs must be tested for.

pallavi.dhande87@gmail.com

Isolation, identification and antibiogram pattern of organism from cases of bovine mastitis in cow around Salem district Tamil Nadu, India

K C P Rajamanikandan and **D Arvind Prasanth**
Periyar University, India

Mastitis is the clinical condition resulting in the inflammation of the mammary gland in cattle due to attack of pathogenic microorganisms under unhygienic condition of livestock shed. This condition causes the reduction of milk production, changing the nature and quality of milk leading to severe economic loss in the diary industry. Hence it is essential to study the microbiological profile and the antibiogram pattern of these organisms. The present study was planned to isolate and identify the microorganism associated with mastitis. The milk samples were collected from different villages in and around Salem district, Tamil Nadu. Totally 30 clinical and 24 sub-clinical conditions were observed in this study. Among the 54 isolates, 10 isolates from clinical condition and 8 isolates sub-clinical conditions were selected for antibiogram pattern. In both clinical conditions *Staphylococcus aureus* (62%) was the predominant isolate followed by *E. coli* (38%). The antibiogram pattern showed that these organisms were sensitive to penicillin, cefatoxime, gentamycin, ciprofloxacin, clindamycin, cephalexcin and oxytetracyclin. Majority of the *Staphylococcus aureus* strains showed resistance many antibiotics were subjected to Mec typing. The results of the study suggest that there is a need for an alternative drug which not only cures the condition but also prevents the development of drug resistant strains in the future.

bts.raj1987@gmail.com

J Biotechnol Biomater 2015
ISSN: 2155-952X, JBTBM an open access journal

Biotechnology 2015
October 05-07, 2015

Volume 5 Issue 6

Page 322