Immunological Techniques and Infectious Disease

Short Communication

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# Screening of invitro activity of antimicrobial and antibiofilm property of Mesenchymal stems cells against MDR gram negative organism isolated from urinary tract infections in tertiary care hospital

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## Abstract

Recent studies had showed that Mesenchymal Stem Cells (MSCs) have beneficial effects on bacterial infections. Treatment with MSCs has proven bacterial clearance. This study was undertaken to study the in vitro activity of antimicrobial and antibiofilm activity of stems cells against gram negative multidrug resistant organism from urinary tract infections. The samples will be processed according to standard protocol following standard guidelines. All the isolates obtained will be identified by standard guidelines. Total of 50 isolates were collected.

The antibiotic susceptibility testing will be done for all the isolates by Kirby Bauer disc diffusion method following CLSI guidelines. All the isolates are screened for production of biofilm by tissue culture plate method. The antimicrobial activity of mesenchymal stem cells was done by micro broth dilution method.

Among the 50 gram negative isolates 22 (44%) were Pseudomonas species 12 (24%) were E coli 8 (16%) were Klebsiella spp and 8 (16%) were Proteus species.

Among the 50 isolates 32 (64%) were multi drug resistant to the antibiotics tested. Among the 50 isolates 43 (86%) produced biofilm of which 28 (65%) were strong producer 8 (18%) were moderate biofilm producer and 7(16.27%) were weak biofilm producers. All 43 isolates showed sensitivity for the mesenchymal stem cells with MIC range of 32-0.25?g.

So far only very few or no studies have been reported on anti-biofilm activity of mesenchymal stems cells. From our study stem cell, therapy with MSC will be effective and alternate for antibiotic resistance in chronic urinary infection there by can serve as therapeutic options for treating drug resistant organisms.

## Biography:

C Anitha has completed her PhD from Dr ALM PGIBMS, University of Madras, India. She is currently working as Assistant Professor of Microbiology in Meenakshi Medical College Hospital and Research Institute. Her areas of interest are Biofilm studies using Confocal Laser Scanning Microscope, Antimicrobial resistance and rare Infectious diseases. She has published more than 30 papers in reputed journals and also has 15 Data sequences submitted in PUBMED/NCBI Genebank. She is also serving as an Editor, Associate Editor, Editorial Board Member and Review Board Member of reputed journals.