CAN VRE BE TREATED BY MEROPENEM?: A CASE REPORT

R. Sujatha, Nidhi pal

1. Professor & Head, Department of Microbiology, Rama Medical college Hospital & research center, Kanpur
2. Ph.D. Scholar, Department of Microbiology, Rama Medical college Hospital & research center, Kanpur

Abstract: The in-vitro and in-vivo activity of meropenem is high against gram negative bacteria but effect is not in accord with the treatment of gram positive organisms. We report a case of a baby treated with meropenem. A two month baby presented with acute gastroenteritis and bacteremia, microbiological investigation showed Vancomycin resistant enterococcal(VRE) infection. But initially the baby was empirically treated with meropenem and enterogramins, for GIT infections, the treatment with meropenem was continued and the baby recovered.

Keywords: VRE, Meropenem

INTRODUCTION

Meropenem has excellent bactericidal activity against almost all clinically significant bacteria. Spectrum of activity is more against Gram negative bacilli, but has less activity against Gram positive cocci especially for Staphylococcus and Enterococcus species.[1] We present a case of a baby who suffered from VRE septicemia and was treated with meropenem.

CASE REPORT

A two month old baby suffering from diarrhea and fever for the last 15 days was admitted to PICU of Rama Hospital. He was provisionally diagnosed to have acute gastroenteritis and septicemia. The following laboratory investigations were done in which the hemoglobin was found to be 6.6 gm% other CBC parameters were found to be within normal limits. Antigen and antibodies for malaria and dengue were found to be negative. Fecal sample for routine microscopy and occult blood was found to negative for intestinal parasite and occult blood. On admission to hospital the baby was started on inj. meropenem and enterogramins along with supportive treatment. The baby showed mild improvement but continued to have fever. Blood was sent for culture which isolated Enterococcus fecalis. The identification of the isolate was done on the basis of colony morphology, gram stain and bile esculine hydrolysis. The antimicrobial susceptibility testing was done according to CLSI guidelines.[2]

The isolate was resistant to penicillin (10 mcg), erythromycin (5 mcg), high-level
gentamicin (HLG) (120 mcg), ciprofloxacin (5 mcg), vancomycin (30 mcg) but was found sensitive to linezolid (15 mcg). The isolate was Vancomycin Resistant Enterococcus (VRE).

When the baby recovered from diarrhea, the enterogramins were stopped but Meropenem inj. was continued because the fever subsided and the baby was responding well even after VRE was isolated. Initially the isolation of VRE was considered as contaminant so blood culture was repeated and interestingly same microorganism and sensitivity was found.

In-vivo activity of meropenem was found highly effective so that no drugs for Gram positive cocci were prescribed. Baby recovered completely and was discharged.

DISCUSSION

VRE, especially E. fecalis has emerged as an important pathogen and represents a serious threat to patients because of high degree of resistance and limited treatment options. In the present case report baby was initially treated with meropenem, which usually has a moderate activity against gram positive organisms particularly Enterococcus sp.\textsuperscript{[3,4]} Inspite of this baby was responding to meropenem. P. J. Turner documented that the MIC of meropenem for the Enterococcus faecalis was high or show in-vitro resistant but clinical success was achieved in many cases.\textsuperscript{[5]} Jose Cadena et.al. found 3 cases E. faecalis bacteremia and meropenem was effective agent.\textsuperscript{[6]} Genetic factors could be a reason for the baby to recover.
CONCLUSION

Despite in vitro evidence of meropenem resistance in Enterococcus, Meropenem can be an effective agent in-vivo. Further studies which includes molecular characterization has to be conducted to know the effect of meropenem against gram positive organism.

REFERENCES


CORRESPONDING AUTHOR:
Dr. R.Sujatha
Professor and Head, Department of Microbiology
Rama Medical College Hospital& Research Centre,Mandhana, Kanpur, U.P.
EmailID: drsujatha152@gmail.com