Antibiotic sensitivity and resistance patterns of salmonella typhi isolates from Nigerian malnourished children

U.I. Abdullahi
Aminu Kano Teaching Hospital, KANO, Nigeria

Background: Malnourished children are at an increased risk of infection especially Gram Negative septicaemia. Gram negative septicaemia especially caused by Salmonella typhi in malnourished children is associated with increased mortality. Appropriate knowledge of the local antibiotic susceptibility pattern will lead to optimal choice of antibiotic treatment hence reducing its associated mortality. This study aimed at determining the local antibiotic susceptibility and resistant patterns of the Salmonella typhi isolates from malnourished children.

Methods & Materials: We analysed susceptibility data for all Salmonella typhi isolated from the blood culture of malnourished children in Aminu Kano Teaching Hospital Kano Nigeria from May to October 2013. Antimicrobial susceptibility assessment was performed on all bacterial isolates using Kirby-Bauer disk diffusion method for locally available antibiotics. The susceptibility testing was based on the standards published by the clinical laboratory standard institute (CLSI).

Results: There were seven Salmonella typhi isolated from the 41 bacteraemic malnourished children. All the isolates were reported as susceptible to Ciprofloxacin, Ofloxacin and Erythromycin. Eighty percent were susceptible to Ceftriaxone and Gentamicin. All the isolates were resistant to Cloxacillin, Co-Trimoxazole, Amoxicillin and Augmentin.

Conclusion: These data showed resistance of the isolates to the antimicrobial recommended by the world health organization in the treatment of malnourished children with suspected bacterial infection, hence calls for its revision.

http://dx.doi.org/10.1016/j.ijid.2016.02.221

Comparison of bacterial characteristics (MICs) of Gram negative bacteria isolated from patients with neutropenic sepsis pre and post-Levofloxacin prophylaxis

H.M.W. Abeywardena1,∗, N. Perera2

1 District General Hospital Nuwara Eliya, Nuwara Eliya, Nuwara Eliya, Sri Lanka
2 Leicester Royal Infirmary, Leicester, United Kingdom

Background: Febrile neutropenia is a life-threatening complication, that occurs frequently during chemotherapy with associated high mortality. Antibacterial prophylaxis is an established strategy to prevent this. Fluoroquinolone prophylaxis has been considered for high-risk patients with prolonged and profound neutropenia (ANC < 1000 mm3), but risk of emergence of resistance has been a concern.

Levofloxacin was used as prophylaxis during the neutropenic period in chemotherapy-induced neutropenic patients at Leicester Royal Infirmary Hospital (LRIH), United Kingdom since 2010.


Design, setting and methods: Retrospective data collection done using haematology Gram negative bacteremia data base, and relevant clinical and laboratory data were retrieved from case notes and computer based data system. VITEC-MIC and E-strip MIC for Ciprofloxacin & Meropenem were performed on the Gram negatives retrieved from saved beads. From 210 total blood culture positives of pre-levofloxacin period, 45 isolates for ciprofloxacin MIC and 44 isolates for meropenem MIC performed. From 88 total blood culture positives of post levofloxacin period, 79 for ciprofloxacin MIC and 78 isolates for meropenem MIC performed.

Results: Number of blood culture positivity has reduced from 210 to 88 with prophylaxis.

Both MIC methods (VITEC & E-strip) given similar sensitivities for tested Gram negative isolates.

Resistant rate for Meropenem was 4.5% (2/44) in pre-prophylaxis period and 11.5% (9/78)) in post-prophylactic period.

Resistance to Ciprofloxacin was 17.7% (8/45) in the pre-prophylaxis period and 25% (20/79) in the post prophylaxis period. Both differences were not statistically significant at a p value of 0.05 (Fisher’s exact test)