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In vitro study of Antimicrobial susceptibility pattern in Salmonella Typhi with special emphasis on Azithromycin.

Shivangi Garg

India

Abstract

Background:

Typhoid fever is major public health problem in India. The incidence of multidrug resistant typhoid fever is increasing alarmingly and the most commonly found strains responsible, are that of Salmonella Typhi. This study was planned to determine the antimicrobial susceptibility pattern in Salmonella Typhi, especially of Azithromycin as it is a commonly prescribed drug for treatment of multidrug resistant typhoid fever.

Methods:

The study was conducted over a span of three months with a total of 67 blood culture samples positive for Salmonella Typhi. Their antibiotic susceptibility pattern was observed by Kirby-Baeur Disc Diffusion method in accordance to CLSI-2019 guidelines by placing various antibiotic disks on the culture plate to check for their respective patterns of resistance by measuring the zone diameter.

Results:

Out of the 67 blood samples positive for S. Typhi, majority of isolates recovered were from pediatric age group(53.7%) and males(59.7%). Complete susceptibility was observed to Azithromycin. Least resistance was found against ampicillin(4.4%), chloramphenicol(4.4%) and cotrimoxazole(4.4%). Resistance to pefloxacin(17.9%), which acts as a surrogate marker for ciprofloxacin resistance, was also observed . Majority of ceftriaxone strains were moderately susceptible(41.8%), while some of them were resistant(26.8%). Nalidixic acid resistance was observed to be the highest(95.5%).

Conclusion:

In our study we found a variable degree of resistance, to all the traditional first line drugs used for the treatment of Typhoid fever. Complete susceptibility to Azithromycin was observed which makes it a logical choice for the treatment of multidrug resistant cases of S. Typhi. However, it should be used judiciously, in view of emerging resistance worldwide.

Speaker Publications:

Grainger, D.J.; Metcalfe, J.C. Tamoxifen: Teaching an old drug new tricks? Nat. Med. 1996, 4, 381–385.

[CrossRef] [PubMed]

2. Jordan, V.C. The science of selective estrogen receptor modulators: Concept to clinical practice. Clin. Cancer

Res. 2006, 12, 5010–5013. [CrossRef] [PubMed]

3. Shagufta; Ahmad, I. Tamoxifen a pioneering drug: An update on the therapeutic potential of tamoxifen

derivatives. Eur. J. Med. Chem. 2018, 143, 515–531. [CrossRef] [PubMed]

4. Heery, M.; Corbett, P.; Zelkowitz, R. Precautions for patients taking tamoxifen. J. Adv. Pract. Oncol. 2018, 9,

78–83. [PubMed]

5. Allred, D.C.; Anderson, S.J.; Paik, S.; Wickerham, D.L.; Nagtegaal, I.D.; Swain, S.M.; Mamounas, E.P.;

Julian, T.B.; Geyer, C.E., Jr.; Costantino, J.P.; et al. Adjuvant tamoxifen reduces subsequent breast cancer in

women with estrogen receptor-positive ductal carcinoma in situ: a study based on NSABP protocol B-24. J.

Clin. Oncol. 2012, 30, 1268–1273. [CrossRef] [PubMed]

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Introduction:

Subclinical infection in intevertebral discs has been hypothesized as a cause back pain for several years. Cutibacterium acnes is the most commonly linked causative bacteria. Inflammation from the infected discs is thought to be the main pathogenesis and antibiotics have been used in an attempt to treat this infection.

Aims:

The aim of this study is to identify the incidence and complications of subclinical infection in intevertebral discs following discectomy.

Methods:

Disc samples following discectomy were obtained over a five-year period at a single spinal surgery centre. All samples were sent for microbiology assessment and extended 14-day culture. The results of the cultures including the specific organisms grown were recorded. The electronic records of all positive cultures were reviewed and any complications such as infection or recurrence of symptoms were noted. In addition, Modic changes were identified by reviewing pre-operative MRI scans and correlated against culture results.

Results:

154 cultures samples were reviewed. Positive cultures were identified in 40%(62) of cases. Cutibacterium acnes was the commonest organism, present in 58%(36) of these positive cultures. Modic endplate changes were more common in positive cultures but there was no significant difference found in complications between the two groups.

Conclusion:

Bacterial colonization of intevertebral discs is a common finding. However, it is difficult to ascertain if this is a primary infection or a contaminant. The nature of these organisms can lead to infections that can present late or