Concerns and Considerations Regarding Azithromycin Use by Physicians

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Dear Editor, Azithromycin is a macrolide antibiotic that targets a wide range of bacteria. It inhibits the growth of many Gram-positive and Gram-negative bacteria, as well as other pathogens like Mycoplasma pneumoniae and Mycobacterium avium complex. Azithromycin is also used to treat bacterial enteritis, cholera, traveller's diarrhoea, as well as complicated enteric fever. It works by decreasing protein synthesis within the bacteria. Azithromycin is commonly prescribed for respiratory and genitourinary infections because of its long half-life and optimal tissue penetration. Ideal for its function, it is often preferred for some specific sexually transmitted infections like non-gonococcal urethritis and cervicitis. Besides its antibacterial properties, azithromycin also exhibits immunomodulatory effects, which can be beneficial in managing chronic respiratory inflammatory conditions. Potential adverse events include cardiovascular arrhythmias and hearing impairment.[1,2] Due to its broad-spectrum coverage, there is a rising concern about azithromycin being misused for minor ailments and not being reserved for severe life-threatening conditions.

According to a 2020 review article, 5,274 cases of XDR typhoid fever were documented in Pakistan. Azithromycin remains the only feasible oral antibiotic to which XDR typhoid remains susceptible, emphasizing that only three antimicrobial drugs including azithromycin (oral), carbapenems, and tigecycline (parenteral) remain effective against extensively drug-resistant strains.[3] In a study conducted by Khan et al. in Pakistan during the COVID-19 pandemic, researchers analysed 562 blood samples of typhoid patients, out of which 71 contained Salmonella typhi. Among these, majority were MDR. The isolates exhibited complete resistance to antibiotics from the fluoroquinolone, chloramphenicol, cephalosporin, and penicillin classes. This underscores the efficacy of azithromycin and carbapenems in treating every MDR or XDR Salmonella Typhi isolate.[4] This emphasizes the urgent need to preserve and carefully manage azithromycin for treating XDR typhoid infections. In a recent systematic review conducted by Kuitunen et al., azithromycin significantly reduced the risk of sepsis in the postpartum period in mothers who received azithromycin before delivery.[5]

These findings once again raise the question of whether we are using and prescribing azithromycin appropriately, as bronchitis and unspecified upper respiratory tract infections are the most common conditions for which azithromycin is prescribed in primary care. In Pakistan, this drug continues to be used as first-line management for upper respiratory tract infections in primary care settings. Physicians must exercise caution when prescribing azithromycin, considering its critical role as a potential life-saving treatment for severe conditions. There is a pressing need for healthcare providers to be trained in antibiotic prescribing practices and to refrain from prescribing antibiotics for throat infections unless justified by evidence-based guidelines. Proper management of azithromycin and other antibiotics is essential to preserve their effectiveness and address the rising concern of antimicrobial resistance.

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