

3rd International Conference and Exhibition on Pharmacovigilance & Clinical Trials

October 27-29, 2014 Hyderabad International Convention Centre, India

Assessment of incidence of Kanamycin induced ototoxicity in MDR-TB patients in tertiary care hospital Surat, Gujarat

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Background: Ototoxicity is generally more serious problem which leads to permanent sensorineural hearing loss in human being. Among aminoglycoside, Kanamycin is a second line injectable tuberculocidal drug similar to Streptomycin, Amikacin in all respects, included in the regimen for MDR-TB under RNTCP. Kanamycin has been shown to suppress cochlear activity irreversibly, resulting in increased incidence of ototoxicity. So emphasis is on the need to explore the role of effect of second line aminoglycoside Kanamycin on the hearing status of MDR-TB patients.

Methods: In our study 100 patients were enrolled and receive CAT-IV regimen with injectable Kanamycin (<45 kg 500 mg, >45 kg 750 mg) intramuscularly. All patients received fixed dose of Kanamycin intramuscularly and anti-tuberculosis medication for six months. Pure tone audiometry (PTA) was performed on all patients before and monthly during the treatment. The onset of symptomatic ototoxicity was detected using questionnaire monthly.

Results: During this study it was observed that hearing loss was irreversible and more common than vestibular disturbance. The incidence of mild to moderate bilateral sensorineural hearing loss observed in 35 (35%) patients (male=23, female=12) and 65 (65%) patients (Male=38, Female=27) without developing ototoxicity over the period of six months.

Conclusion: Kanamycin used in MDR-TB patients may result in irreversible hearing loss involving mild to moderate bilateral sensorineural type and can become a hearing handicap. So this study emphasizes the need to observe regular audiologic evaluation in patients of MDR-TB during Kanamycin treatment.

Biography

Nitesh C Gamit has completed MBBS from Government Medical College, Baroda affiliated to M. S. University Baroda, Gujarat. Currently, she is pursuing Post-graduation in pharmacology from Government Medical College, Surat, affiliated to Veer Narmad South Gujarat University, Surat, Gujarat. At present, he is working on research project namely "Study of effects of oral hypoglycaemic agent on CRP level in type-2 diabetes mellitus". He has attended medical education workshop and national conference on Pharmacon-2013 Ahmedabad, Gujarat.

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