India

age ranges of the patients from 7 years to 29 years. Four of six patients were subjected to direct microscopy by Ziehl Neelsen staining, and histopathology diagnosis was performed in 4/6 patients and positive in all the four patients. Chest X was performed in 5/6 patients and no abnormality was noted in all these patients. ESR was elevated in 3/5 patients. Histopathology diagnosis was available for 5 patients and 4/5 patients showed granulomatous inflammation with caseous necrosis, one with tuberculosis osteomyelitis. Direct smear was positive for acid fast bacilli and culture grew Mycobacterium tuberculosis on LJ medium in all the patients. All the patients were started on anti tuberculosis treatment.

Conclusion: Orbital tuberculosis should be considered as a differential diagnosis in immunocompetent patients with orbital swelling and abscess in TB endemic countries. In majority of patients orbital tuberculosis occurs without systemic involvement.

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Type: Poster Presentation

The urgency of effective antitubercular drug development – new promising structures derived from natural terpenoids

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Background: Despite the availability of highly efficacious treatment for decades, tuberculosis (TB) remains a major global health problem. The widespread transmission of resistant variants of Mycobacterium tuberculosis, which does not respond to any of the commercial drugs, threatens health security of both developed and developing world. The urgent need of new antimycobacterial agents and development pathways is becoming more and more apparent.

Methods & Materials: More than 200 new diverse structures, including more than 50 new synthetic chiral compounds derived from natural terpenoids (+)-camphor and (-)-fenchone were synthesized. The compounds were evaluated for their in vitro antimycobacterial activity by proportional method against reference strain Mycobacterium tuberculosis H37Rv and multidrug resistant Mycobacterium tuberculosis strain 43.

Results: The quantitative structure–activity relationship (QSAR) revealed several structural requirements: two hydrogen bond donors, two or three rings and no large branched substituents. We describe the design of a set of nine novel camphane-based derivatives following these requirements. Four of them showed activities in the nanomolar range, significantly higher than the activities in the initial set. Many structures showed promising antimycobacterial activity against Mycobacterium tuberculosis (H37Rv).

Repurposing of rimonabant

Conclusion: A sila analogue turned out to be the most potent antimycobacterial compound (MIC, 31 ng/ml) from this series with an excellent selectivity index. Optimization of the series to improve its ADME properties is currently in progress.

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Orbital tuberculosis: Clinical and microbiology profile

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Background: Mycobacterium tuberculosis infection of the eye is common in India, but the orbital infection is extremely rare. Orbital tuberculosis occurs as a result of hematogenous spread or direct extension from the neighboring structures. In this study we have reviewed the clinical and microbiology features of orbital tuberculosis.

Methods & Materials: Medical and Microbiology records of patients with orbital tuberculosis positive for M. tuberculosis in culture between June 2010 and May 2015 reviewed. The study data included demographic details of the patients, clinical presentation, interventions and reports of other investigations performed. Incision biopsies/Pus aspirate/FNAC specimen obtained from patients were subjected to direct microscopy by Ziehl Neelsen staining, incubated on to Lowenstein Jensen(LJ) medium and histopathology.

Results: A total of 6 patients with orbital tuberculosis were identified during the study period. Four of six patients were females. The age ranges of the patients from 7 years to 29 years. Four patients were less than 15 years, two patients were within 15 to 30 years. All the patients were immunocompetent. Two patients presented with lacrimal gland mass with proptosis, one patient with chronic orbital cellulitis, one patient with orbital cellulitis and tuberculosis osteomyelitis, one with upper lid mass with choroidal granuloma and one patient with upper lid mass. Mantoux test was performed in 4/6 patients and positive in all the four patients. Chest X was performed in 5/6 patients and no abnormality was noted in all these patients. ESR was elevated in 3/5 patients. Histopathology diagnosis was available for 5 patients and 4/5 patients showed granulomatous inflammation with caseous necrosis, one with tuberculosis osteomyelitis. Direct smear was positive for acid fast bacilli and culture grew Mycobacterium tuberculosis on LJ medium in all the patients. All the patients were started on anti tuberculosis treatment.

Conclusion: Orbital tuberculosis should be considered as a differential diagnosis in immunocompetent patients with orbital swelling and abscess in TB endemic countries. In majority of patients orbital tuberculosis occurs without systemic involvement.