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Editor's Note OMICS International

Effective Screening for Tuberculosis: The Need of the Hour

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Editor's Note

Mycobacterial Diseases journal is a prestigious peer reviewed international journal that focuses on publishing discoveries and current developments on how *Mycobacterium* species can cause the diseases, especially Leprosy, Tuberculosis, etc.

In this current issue, reputed scientists and academicians from across the globe contributed advanced research articles that further the investigation into both basic science and development of clinical consquences due to infection.

Lai et al. concluded that Ultra Sonic-guided synovial SuperCore biopsy instrument is a fruitful method to conduct synovial research [1]. They discussed the advantages of simple, micro invasiveness that correlates well with a relatively high rate of success. They further continued that the complications due to biopsy methodologies are rare. Authors were optimistic about future refinements of this technique where simplified biopsy methods may be used to investigate the pathogenesis of early rheumatoid arthritis. This would be helpful for the biologists in identifying the cause of infectious pathogens.

Rawat et al. observed that the chemokines genes CXCL10 and CXCL8 were expressed in borderline tuberculoid (BT), borderline borderline (BB), and borderline lpromatous (BL-LL) [2]. Gene expression levels were variably increased in Leprosy skin lesions during advance stages of leprosy. They predicted that CXCL8 and CXCL10 may have a role in lepromatous (BL-LL) form of leprosy [2].

Sarkar et al. in their review article stated that Tuberculosis among HIV patients is the leading cause for death, and HIV patients have a higher probability of developing drug-induced hepatitis (ATDH) [3]. They concluded that use of various first line drugs, such as rifampicin, can cause severe drug-drug interaction during cases of dual TB and HIV infection. The authors of the report suggested that extensive research is required to design novel treatment regimens to eradicate tuberculosis quickly with minimal or no side effects.

Solioz discussed *Mycobacterial* survival in phagosomes, focusing on the role of Cu+ versus Cu2+ in phagosomal killing of bacteria [4]. There was a much higher bactericidal activity of Cu+ versus Cu2, and they conclude that copper redox reactions appear to play an important role in the process. Overall, this is a difficult scientific question to address. They state that intracellular copper indicators targeting specific cell compartments is a major challenge and copper redox plays a major role in phagosomes reaction. The authors recommend further investigation, which may lead to novel pathways to target for drug development.

Gupta et al. studied the efficacy of DOTS (Directly Observed Treatment, short-course) by observing the Susceptibility Pattern of *Mycobacterium tuberculosis* at Tertiary Care DOTS Centre in Delhi over a decade [5]. They concluded that while Mycobacterium causing pulmonary tuberculosis (TB) has increased at an alarming rate, use of isoniazid and rifampicin has stabilized. They proposed that this may be due to DOTS contribution towards treatment of pulmonary TB. The situation in extra-pulmonary TB is even more threatening as the resistance increased towards isoniazid and first-line agents. The study concluded that a "hidden reservoir" in the case of extra-pulmonary TB may decrease the efficacy of the DOTS program in the future.

Khan et al. described the clinical features, demographics, diagnostic procedures, organ involvement and outcomes of the patients with disseminated tuberculosis (TB) in Qatar [6]. They stated that disseminated TB is associated with significant morbidity and mortality burden and the diagnosis is difficult as simple chest X-ray cannot detect the minute changes. Hence, the study concludes that TB Patients with immune-suppression and patients suffering from endemic diseases are highly susceptible to disseminated TB.

Talwar et al. in their commentary article on T7 Phage Display Library presented a novel peptide microarray platform to identify TB biomarkers [7]. They used the bar coding strategy for the identification of T7 phage clones from a pool of T7 phage cDNA libraries. They concluded that TB specific antibodies obtained from TB patients will help in developing biomarkers to diagnose different types of TB. They hypothesized that latent TB and active TB would show a differential immune response profile to antigens within the T7 phage cDNA library which can be instrumental in identification of biomarkers to assist in detecting active TB from latent TB. They also speculate that further development of the T7 phage display cDNA library may help in developing a TB specific vaccine [7].

Waghmare et al. reviewed Excretory Secretory (ES) Proteins Released by *Mycobacterium tuberculosis* (H37Ra) [8]. The authors found proteins, such as ES-31, ES-41, ES-43, ES-6, and ES-31, as having Diagnostic Potentiality which would be helpful in monitoring and assessing the immune effectiveness of chemotherapy. However, the authors recommended that this be confirmed to prove that there is a utility for use of mycobacterial ES protein antigens in the diagnosis, prognosis and prediction of tuberculosis infection.

References

1. Lai KL, Chen HH, Wen MC, Chen YM, Lan JL, et al. (2016) Minimally Invasive Ultrasound-guided Synovial Biopsy Using SuperCore Biopsy Instrument. Mycobact Dis 6: 207.
2. Rawat KD, Chahar M, Reddy PVJ, Srivastava N, Gupta UD, et al. (2016) Expression and Analysis of CXCL8 and CXCL10 Chemokines in Human Skin Lesions Infected with M.leprae. Mycobact Dis 6: 208.
3. Sarkar S, Ganguly A, Sunwoo HH (2016) Current Overview of Anti-Tuberculosis Drugs: Metabolism and Toxicities. Mycobact Dis 6: 209.
4. Solioz M (2016) Copper Oxidation State and Mycobacterial Infection. Mycobact Dis 6: 210.

5. Gupta K, Nair D, Sharma P, Gupta A, Sen MK (2016) Changing Trends in the Susceptibility Pattern of Mycobacterium tuberculosis Over a Decade from a Tertiary Care DOTS Centre Delhi. Mycobact Dis 6: 211.
6. Khan FY, Dosa K, Fuad A, Ibrahim W, Alaini A, et al. (2016) Disseminated Tuberculosis among Adult Patients Admitted to Hamad General Hospital, Qatar: A Five Year Hospital Based Study . Mycobact Dis 6: 212.
7. Talwar H, Talreja J, Samavati L (2016) T7 Phage Display Library a Promising Strategy to Detect Tuberculosis Specific Biomarkers. Mycobact Dis 6: 214.