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Session: Tuberculosis and Other Mycobacterial Infections

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Time: 12:45-14:15

Room: Ballroom

A study of the social stigma of the patients receiving DOTS under RNTCP in Munger district of Bihar, India

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Background: Acceptance of DOTS strategy in the Indian RNTCP has certainly brought encouraging success in the management of TB cases within the country. However there are challenges to be met in the programme implementation, before the RNTCP objectives are finally realized. One such challenge is the social stigma associated with the TB patients. The study attempts to find out the concerns of the TB patients who receive the DOTS within the same community.

Objective:

To know the major concerns of the TB patients who are receiving the DOTS from the DOTS providers within the same community/village

Methods & Materials: An interview was conducted of 256 patients who are receiving the DOTS within their communities/villages across the five development blocks of Munger district of Bihar

Results: Of all the TB patients who were interviewed 53 percent reported that they wanted to hide from the community that they have TB but they have to reveal it to others about their disease because they have to take the DOTS from the providers within the village. Of all those interviewed, 47 percent said that taking DOTS had a negative impact on them with respect to social discrimination within the community. 53 percent reported that because of DOTS several people in the community knew that they have TB which led to the discrimination.

Conclusion: Notions restricting the acceptance of TB patients are still prevalent in the minds of people and require a propagation of frequent IEC campaigns to remove superstitions amongst the people.

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Associations between human leukocyte antigen class I variants and the *Mycobacterium tuberculosis* subtypes causing disease

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Background: The development of active tuberculosis disease has been shown to be multifactorial. Interactions between host and bacterial genotype may influence disease outcome, with some studies indicating the adaptation of *Mycobacterium tuberculosis* strains to specific human populations. Here we investigate the role of the human leukocyte antigen (HLA) class I genes in this biological process.

Methods & Materials: Three hundred patients with tuberculosis from South Africa were typed for their HLA class I alleles by direct sequencing. *Mycobacterium tuberculosis* genotype classification was done by IS6110 restriction fragment length polymorphism genotyping and spoligotyping.

Results: We showed that Beijing strain occurred more frequently in individuals with multiple disease episodes ($P < .001$) with the *HLA-B27* allele lowering the odds of having an additional episode (odds ratio, 0.21; $P = .006$). Associations were identified for specific HLA types and disease caused by the Beijing, LAM, LCC, and Quebec strains. HLA types were also associated with disease caused by strains from the Euro-American or East Asian lineages, and the frequencies of these alleles in their sympatric human populations identified potential coevolutionary events between host and pathogen.

Conclusion: This is the first report of the association of human HLA types and *Mycobacterium tuberculosis* strain genotype, highlighting that both host and pathogen genetics need to be taken into consideration when studying tuberculosis disease development.

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