

Will Precision Medicine Ever be A Possibility for Controlling Tuberculosis?

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Not long ago, the global epidemic of tuberculosis, the so-called “white plaque” was controlled by energetic medical practice. i.e., providing B.C.G. vaccination for newborns, as well as early diagnosis and proper treatment of infected persons. Unfortunately, though, recent episodes of tuberculosis have notably re-emerged and cases of chemotherapeutic resistance are prevailing. [1].

The reasons for such incidents have been sorted out and are as the follows :

- (1) Epidemics of drug-resistant causative agents;
- (2) Withering enthusiasm for controlling the disease, such as lagging public health activity in provision of B.C.G. vaccination, and in energetic therapeutic practice thereby, leaving cases of drug resistance and treatment failure to become drastic sources of infection; and,
- (3) The inability to radically eradicate the infection, as compared to leprosy and smallpox.

Regarding public health activity, apart from revision in general practices, and/or seeking new inventions, new philosophies apply. Owing to the advances in molecular or genomic medicine, new fronts are open for “precision medicine” to target a variety of diseases, including microbial infections, such as tuberculosis, at molecular levels.

In the case of tuberculosis, this decision is based on the knowledge of innate resistance, susceptibility and possibly acquired factors that exist. [2-8] In this regard, the mutated portions, or any malicious genes if present in the DNA helix strands, may possibly be removed by molecular technology, such as the CRISPR/Cas system [9,10]. The named practices can be instituted prenatally or at subsequent occasions as necessitated.

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