DAIRYQUINOLONES FOR TUBERCULOSIS

There is a new drug in the armamentarium against tuberculosis which also appears to work on dormant *Mycobacteria* which are normally not affected by routine antitubercular drugs. Dairyquinolones inhibit the mycobacterial ATP synthetase; the enzyme which remains active even in the dormant bacteria. The efficacy in humans was confirmed in a recent phase 2 randomized controlled trial conducted on 47 patients with newly diagnosed multidrug-resistant pulmonary tuberculosis. The rate of conversion to a negative culture was 48% in the dairyquinolone (TMC207) group (10 of 21 patients) and 9% in the placebo group (2 of 23 patients). TMC207 also reduced the time to culture conversion: the probability of becoming culture negative on any given day within the 8 weeks of the trial was 11.8 times higher. Dairyquinolone TMC207 appears to work synergistically with routine antitubercular therapy and might be instrumental in reducing the duration of drug therapy and improving efficacy of current regimens almost 5 times (*NEJM 360:2397-2405, June 2009*).

WHY EDAXADIENE IS SO EXCITING?

Decoding any riddle needs an eye for minutiae. The enduring puzzle of how *Mycobacterium tuberculosis* has been plaguing humankind for eons and how man can finally befool it, is now being tackled from a whole new angle. Reuben Peters from Illinois University first started to wonder why *Mycobacterium bovis* is so much less infective to humans as compared to *Mycobacterium tuberculosis*. The genetic make up of the two is 99.9% identical. Peters found that the *Mycobacterium tuberculosis* produces a defensive molecule that prevents the macrophage cells from destroying them. Peters and his team called this molecule 'edaxadiene'. The next step was to try to find molecules that bind with the edaxadiene-producing enzymes from tuberculosis and neutralize them. This makes the tuberculosis cells unable to produce edaxadiene. Without edaxadiene, tuberculosis cells would have a reduced ability to resist being killed by the macrophage cells. Peter's group has now found edaxadiene enzyme inhibitors which are effective *in vitro*. The big leap will be to see their efficacy *in vivo*. Since edaxadiene seems to be specific for humans, finding an appropriate animal model will be one of the big challenges. (*J Biol Chem 28 August 2009, Medical News Today 2 October 2009*).

ONLINE FREE REFRESHER COURSE FOR MDR TUBERCULOSIS

The World Medical Association in its annual assembly in New Delhi launched a free online course in MDR TB. The new course, which incorporates key elements of internationally accepted strategies for management and control of TB, will link to the WMA's MDR-TB course which has been running for the past two years. It is free of charge and can be used by physicians in private practice as well as in the public. Physicians will be able to receive credits for completing the course as part of their continuing medical education program. (*http://www.wma.net/en/70education/10onlinecourses/10mdr_tb/index.html*)

Gouri Rao Passi,
gouripassi@hotmail.com