NEWS IN BRIEF

TDR Tuberculosis

Mumbai has been in the national and international focus after 12 cases of totally drug resistant (TDR) tuberculosis were reported from PD Hinduja Hospital. The TDR tuberculosis bacteria is resistant to all 1st and 2nd line antimycobacterial therapy. In contrast MDR TB is resistant to INH and rifampicin and XDR (extensively drug resistant) mycobacteria are resistant also to fluoroquinolones and one of the three injectable drugs (amikacin, capreomycin and kanamycin). The Union Government has asked the Maharashtra Government to trace the 12 patients and curtail spread of infection. The BMC has decided to trace all these patients, counsel them and provide treatment to their relatives.

TDR TB was first reported from Italy in 2006 and then Iran in 2009. India is the third country to have this dubious honor. The gold standard for diagnosis of tuberculosis still remains the 100 year old microscopy and culture which is prone to false negatives and a long time lag before results are out. Till culture reports come the patient is on inappropriate drugs and free to infect others. The fully automated PCR based test which also assesses rifampicin resistance – Xpert Rif is not widely available. Since no 1st line antitubercular drugs have been developed for more than half a century means constant exposure to the same drugs has increased chances of emergence of drug resistance (*Nature 13 January 2012; Totally Drug Resistant tuberculosis in India. Clin Infect Dis Feb 2012, Times of India 15 January 2012*).

Curing Cystic Fibrosis

It has been more than 20 years since the CFTR (cystic fibrosis transmembrane regulator) gene was discovered to be defective in the transport of various ions such as chloride and water in this recalcitrant disease. 90% of people with cystic fibrosis have a mutation, called F508del, which results in proteins that do not fold into their proper shape and so get targeted for degradation, reducing the number of channels. The FDA has just approved a drug Kalydeco (Ivacaftor) attempting to correct the basic problem in cystic fibrosis. But Ivacaftor will work only in 4% patients who have the mutation G551D. It is designed to act directly on the malfunctioning CFTR protein to help restore the balance of salt and water. Drugs to correct the functioning of a protein are a new concept while blocking protein functions is standard in pharmacology.

Drugs in the pipeline for other cystic-fibrosis mutations include VX-809. This compound seems to protect proteins affected by the F508del mutation from degradation. Trials of this drug in combination with Kalydeco are under way to see whether VX-809 will get the protein to the cell membrane so that Kalydeco could then get it working (*Nature News 7 February 2012, www.fda.gov 31 Jan 2012*).

Boycotting Elsevier

Thousands of researchers have joined hands to protest against the highhanded ways of the Amsterdam based publishing giant Elsevier. Researchers are miffed because of Elsevier's high prices; the practice of bundling journals, which some see as forcing libraries to subscribe to journals they don't want to get those that they do; and the company's support for US legislation such as the Research Works Act (RWA), which would forbid government agencies from requiring that the results of research they fund be placed in public repositories. Since the beginning of the protest more than 4800 researchers have signed in with about 200 signatories adding on each day. About 20% of them are mathematicians but this may not have so great an impact as there aren't too many top mathematical journals with Elsevier. What would really impact would be protests from researchers in biology since they have many important journals in the field including *The Lancet* and *Cell*. It will take some time to see how far and how powerful this movement will grow (*Nature 9 February 2012*).

Newborn Screening

Until now samples of babies born in the state of Minnesota, USA who had a screening blood test were preserved. Minnesota, like several other US states, had not asked parents for permission to store their children's samples indefinitely and use them in research. The Minnesota Department of Health holds at least one million such samples, collected since 1997. Then nine families sued the State that it must obtain written informed consent to collect, store or use infants' blood samples. The Minnesota Supreme Court ruled on 16 November in *Bearder* v. *State of Minnesota* that by storing the blood spots, the MDH violates the state's Genetic Privacy Act, a 2006 law that requires informed, written consent for the collection, storage, use and dissemination of any genetic information. From beginning February 2012,The Minnesota Department of Health (MDH) has started destroying the stored samples and will now actively ask parents for consent to store blood spots collected from infants who have been diagnosed with one of the 53 diseases tested for, and automatically destroy samples from children who have been given the all-clear. Scientists are enraged since this was a valuable store of patient material which was being used to validate many tests such as for congenital CMV, SCID, etc. (*Nature 3 February 2012*)

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