NEWS IN BRIEF

THE SINISTER RISE OF NON-AFP POLIO

No case of polio was detected in India for the last 2 years. But a bigger question seems to loom silently ahead of us. Why has the incidence of non polio AFP increased by leaps and bounds in India? WHO data shows that there were 8000 cases of non-polio AFP in India in 2003, 12,000 cases in 2004, which rose to 26,000 in 2005. By 2007 the non-polio AFP cases were 40,000 and shot up to 60,000 cases by 2011. In stark contrast to the global rate of annualized non-polio AFP of 5.48/ 1 lakh children, the corresponding number in India is 15.0. Interestingly, Bihar and UP account for 61% of the 53,000 non-polio AFP identified in India in 2012. According to the WHO country office in India, the increase is due to the intensified surveillance and broadened case definition of AFP. However there is disturbing data to suggest that everything may not be so hunky dory. Studies from SGPGI, Lucknow and Indian Institute of Science, Bangalore which studied nearly 50,000 stool samples showed that enteroviruses were detected in only 30% of patients of AFP. Non AFP cases may not be as benign as they are being touted. In 2005, a fifth of the cases of non-polio AFP in UP were followed up. At 60 days, 35.2% had residual paralysis and 8.5% had died. The data from the following year showed that child with non-polio AFP had twice the risk of dying *vis-a- vis* those with the wild polio virus infection. Nationally, the non-polio AFP rate is now 12 times higher than expected. In the states of Uttar Pradesh (UP) and Bihar, which have pulse polio rounds nearly every month, the non-polio AFP rate is 25- and 35-fold higher than the international norms. The relationship of the non-polio AFP rate seems to be curvilinear with a more steep increase beyond six doses of OPV in one year. The non-polio AFP rate during the year best appears to correlateto the cumulative doses received in the previous three years. This data needs careful scrutiny, analysis and thought. (*The Hindu 3 January 2013*).

THE CHENNAI DECLARATION

The first ever meeting of medical societies in India on the issue of tackling antibiotic resistance in the country was organized in Chennai last year. Two years ago Karthikeyan Kumaraswamy and colleagues published a molecular, biological and epidemiological study in *The Lancet Infectious Diseases* about the emergence of a new antibiotic resistance mechanism – the New Delhi Metalloprotease (NDM)1 mutation in India and Pakistan and its spread subsequently to the UK. These bacteria are now resistant to the carbapenems and the only remaining antibiotic becomes colistin. After an exhaustive discussion a detailed road map to control this menace has been published as "The Chennai Declaration". Suggestions include strategies to regulate over the counter sale of antibiotics, monitoring of in-hospital antibiotic usage, stepping up of microbiology lab facilities, national antibiotic surveillance system, curriculum change in medical education and development of DM courses in infectious diseases (*Indian J Cancer 2012; 49: 84-94*).

THE LAST FRONTIER OF MYCOBACTERIA

In 1994 when Bikul Das a young doctor from Assam failed to get an MD Medicine seat in New Delhi, he got a job in Mangar Hospital, Bhutan. He often had to do bone marrows for patients with PUO. On many occasions he chanced upon AFB positive bacteria in the progenitor cells. He was then reading a paper on how leukemic cells hijack stem cells and it occurred to him that *Mycobacteria* perhaps also lie dormant in bone marrow stem cells. His Professor however laughed off the idea saying that then there should then always be significant hematological effects visible. Many years later as a researcher in Stanford University he decided to follow up this idea. First they studied whether AFB can infect bone marrow stem cells. They discovered that CD271/CD133 were most permissive for *Mycobacteria*. On further scrutiny they found that CD271 - the mesenchymal stem cells - are preferentially infected. They also found that after 2-4 fold multiplication they become dormant there. When they studied successfully treated patients with tuberculosis and controls they found that patients exhibit measurable dormant *Mycobacteria* in these mesenchymal stem cells while controls did not. The last bastion of dormant mycobacteria has been traced out finally, completing one more link in the puzzle that is tuberculosis *(The Hindu 31 January 2013)*.

THE DEATH OF AARON SCHWARTZ

Massachusetts Institute of Technology had a shock in early 2011, when it learnt that somebody had been secretly copying millions of research articles from their computer network. The intruder had been clever, switching identities to avoid exposure by the security network. But after 2 years of persistent tracking the culprit was finally nailed down and caught red handed. It was 26 year old young computer programmer from Harvard, Aaron Schwartz –the Hacker or the Genius. At 14 he had co-written the RSS standard (which creates standard format for getting feeds from changing web content) and also given a guest lecture at MIT. After being caught he faced a lengthy prison term whose trial was to begin in April. He killed himself on January 11th. His death has sparked off a movement in the entire scientific community to free access to academic work. Opposing the privatization of knowledge, researchers have started sharing their copyright protected work on Twitter as a tribute to Schwartz. The US administration is under pressure to provide open access to all tax-payer funded research. In the UK, from April this year all government funded research will be open access. And in Australia starting January 1, 2013, all government funded research will be open access after a year of publication. Real internet freedom is not just about freedom of expression but about free access to knowledge (*The Hindu 21, 24, 25 January 2013*)

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