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CIDS Newsletter

June 2015

CLINICAL INFECTIOUS DISEASES SOCIETY

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Editor's note

Dear CIDS members

Hope all of you have registered for CIDSCON and made your travel arrangements: several exciting topics and distinguished speakers await you! The updated program is on the conference website www.cidscon.in.

One more request: many of you have publications accepted in peer reviewed journals; please send me a copy (gopalmeena_2000@yahoo.com) when published. I will be happy to make a synopsis and include it in our literature review section. This will greatly help other members' access publications relevant to Indian practice and facilitate staying current with the literature, clinical collaborations among ourselves, etc.

This is the first anniversary of our newsletter, and I welcome contributions from members to improve its content and take it to the next level!

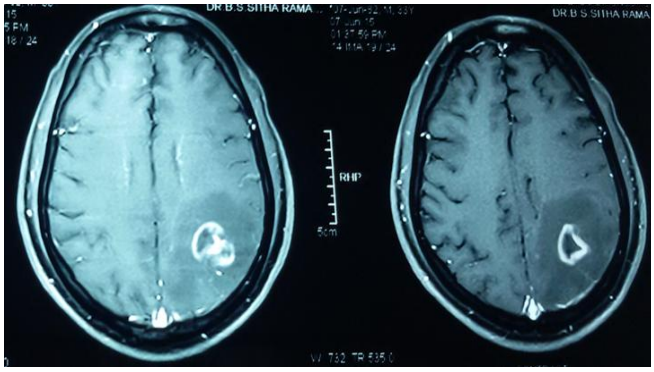
Sincerely

Ram Gopalakrishnan

Photo quiz

A 32 yr old male presented with headache, fever, right sided weakness, and slurred speech for 2 days. HIV ELISA was positive and CD4 count was 85. MRI brain is shown.

What is your diagnosis?



CIDSCON 2015
21 - 23 August | New Delhi

5th ANNUAL CONFERENCE OF THE CLINICAL INFECTIOUS DISEASES SOCIETY

News from the ID world

Mission Indradhanush

Lancet ID Volume 15, No. 6, p637-638, June 2015

India has launched an immunisation campaign aiming at full immunisation coverage of at least 90% of children in the next 5 years - coverage was 65% in 2013. On April 7, Mission Indradhanush came into effect across India, with special attention on 201 high-focus districts. Depicting the seven colours of a rainbow (Indradhanush), the campaign aims to provide protection to children aged up to 2 years against seven infectious diseases: diphtheria, whooping cough, tetanus, polio, tuberculosis, measles, and hepatitis B. Additionally, the campaign will also provide, in selected districts, vaccination against Japanese encephalitis and *Haemophilus influenzae* type B; that apart, tetanus toxoid vaccines will be provided to pregnant women. The campaign has begun as a catch-up program from April to July in the 201 high-focus districts; these districts account for nearly 50% of the total partly vaccinated or unvaccinated children in the country. 82 of the 201 high-focus districts are situated in four states of the country—Uttar Pradesh, Rajasthan, Bihar, and Madhya Pradesh.

India tackles lymphatic filariasis

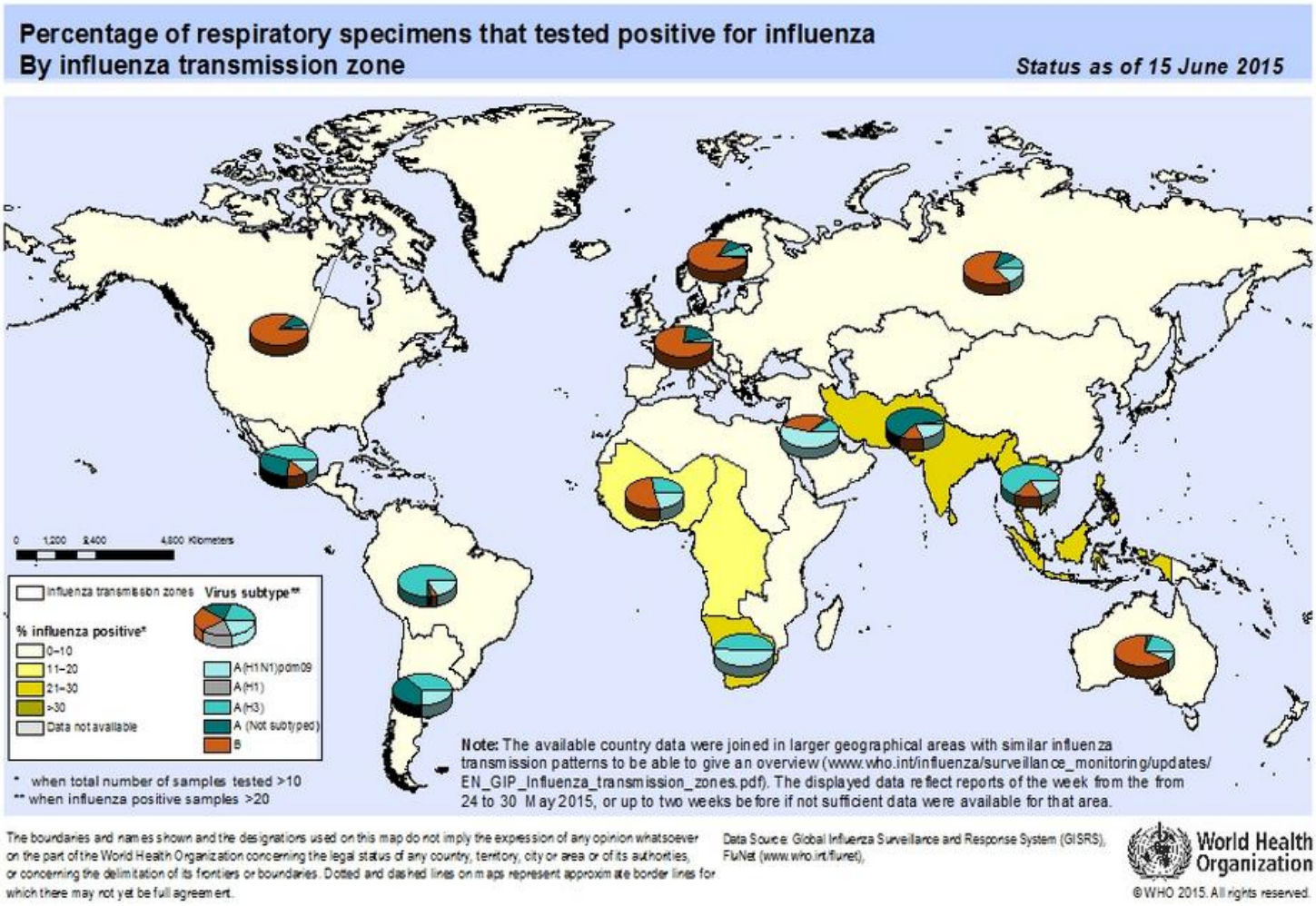
Lancet Volume 15, No. 4, p380, April 2015

Lymphatic filariasis affects nearly 120 million people in the tropical and subtropical regions of the world and 66% of the people at risk of the disease live in WHO's Southeast Asia region—a region that encompasses 11 countries, including India. India's Ministry of Health and Family Welfare in collaboration with the Global Network for Neglected Tropical Diseases (an initiative of the Washington-based Sabin Vaccine Institute) has launched a public service advertising campaign called *Hathipaon Mukt Bharat* (Filaria Free India). The initiative will include providing an annual dose of preventive drugs (diethylcarbamazine and albendazole) to entire communities in the form of mass drug administration. It will be implemented in 17 states, four of which (Uttar Pradesh, Bihar, Jharkhand, and West Bengal) carry nearly two-thirds of the country's lymphatic filariasis burden.

Whats new and going around

Influenza activity

With the onset of summer, H1N1 activity seems to be dying down in India as the accompanying WHO influenza map shows. However, being a tropical country there is significant background influenza, mostly type A. **(see figure)**



Snippets from the literature

Use of Xpert MTB/RIF in Decentralized Public Health Settings and Its Effect on Pulmonary TB and DR-TB Case Finding in India

(courtesy Dr Madhukar Pai)

PLOS ONE | DOI:10.1371/journal.pone.0126065 May 21, 2015

This study assessed the impact of up-front Xpert MTB/RIF testing on detection of pulmonary tuberculosis (PTB) and rifampicin-resistant PTB (DR-TB) cases in India. The implementation of Xpert MTB/RIF was associated with increases in both notif--ication rates of bacteriologically confirmed TB (adjusted incidence rate ratio 1.39), and proportion of bacteriological confirmed TB cases among presumptive TB cases (adjusted risk ratio 1.33). Compared with the baseline strategy of selective drug-susceptibility testing only for PTB cases at high risk of drug-resistant TB, Xpert MTB/RIF implementation increased rifampicin resistant TB case detection by over fivefold.

The verdict is clear: just like South Africa, India needs to implement Xpert MTB/RIF as the first line test for diagnosis of pulmonary TB instead of sputum AFB smear.

Typhoid conjugate vaccine looks promising

Clin Infect Dis. (2015)doi: 10.1093/cid/civ295First published online: April 13, 2015

This manufacturer sponsored study, carried out in India, compared a tetanus toxoid conjugated Vi polysaccharide typhoid vaccine against a Vi polysaccharide vaccine. The primary objective included analysis of geometric mean titer (GMTs) and 4-fold rise of anti-Vi serum immunoglobulin G (IgG) enzyme-linked immunosorbent assay titers over baseline (seroconversion [SCN]) 42 days after immunization. Conjugate vaccine recipients in the RCT attained higher anti-Vi IgG GMTs 42 days after immunization (SCN, 97%; GMT, 1293 [95% confidence interval {CI}, 1153–1449]) than recipients of polysaccharide vaccine (SCN, 93%; GMT, 411 [95% CI, 359–471]) ($P < .001$). Two years after vaccination, anti-Vi titers remained higher in conjugate vaccine subjects (GMT, 82 [95% CI, 73–92]); and exhibited higher avidity (geometric mean avidity index [GMAI], 60%) than in polysaccharide vaccine recipients (GMT, 46 [95% CI, 40–53]; GMAI 46%) in the RCT ($P < .001$). No serious vaccine-attributable adverse events were observed.

This vaccine is already licensed in India; we now have some evidence that it is efficacious. Just like pneumococcal and meningococcal vaccines, conjugate typhoid vaccines may be the way forward to enhance cell mediated lasting immunity.

Do we START our patients with HIV on therapy as early as possible?

National Institutes of Health 2015 May 27;

To more clearly define the optimal timing of ART initiation, the NIH funded the START trial. Launched in March 2011, this trial compared potential benefits and risks (e.g., developing AIDS or other serious conditions, including cardiovascular disease, cancer, kidney failure, and liver disease, or death) between early and deferred treatment (ART initiation at CD4 counts >500 cells/mm^3 vs. counts <350 cells/mm^3). The study involved 4685 HIV-infected, treatment-naive adults (median age, 36) at 215 sites in 35 countries with an average follow-up of 3 years. On May 27, 2015, the NIH released the study results early after an interim analysis revealed that, although the overall event rate was low (<3% over 3 years), the risk for serious illness or death was reduced by 53% in the early-treatment group. The reduction was greater for AIDS-related events than for non-AIDS events (70% and 33%, respectively).

WHO guidelines currently recommend starting therapy regardless of CD4-cell count for serodiscordant couples, patients with tuberculosis or severe hepatitis B co-infection, pregnant women, and children aged <5 years, and at counts <500 cells/mm^3 for all others. It now appears that all those who desire ART can avail of it.

Transcriptional profiling is a promising tool for improving diagnosis in LRTI

J Infect Dis. (2015) 212 (2): 213-222.doi: 10.1093/infdis/jiv047

This technique analyses differentially expressed genes in patients with bacterial LRTI and viral LRTI. The investigators performed whole blood transcriptional analysis in 118 patients hospitalized with LRTI and 40 age-matched healthy controls. Transcriptional profiling had 95% sensitivity and 92% specificity in discriminating between bacterial and viral LRTI, compared with a sensitivity of 38% and a specificity of 91% for procalcitonin.

Distinguishing between bacterial and viral lower respiratory tract infection (LRTI) remains challenging, but is the subject of intense investigation in this era of antimicrobial resistance. Though far from the bedside, this new tool looks extremely promising.

Does surgery carry higher mortality in HIV positive patients?

JAMA Surg 2015 Feb 25; [e-pub].

(http://dx.doi.org/10.1001/jamasurg.2014.2257)

Investigators studied 30-day mortality among HIV-infected patients on antiretroviral therapy (ART) who underwent major inpatient surgery and procedure-matched, uninfected controls. There was a higher 30-day postoperative mortality in HIV infected patients compared with the mortality in uninfected patients (3.4% vs 1.6%). The CD4 cell count was inversely associated with mortality (50-199/μL: IRR, 2.66 and with <50/μL: IRR, 6.21). Hypoalbuminemia (IRR, 4.35 $P < .001$) and age in decades (IRR, 1.47, $P < .001$) were also strongly associated with mortality.

Indian surgeons are sometimes reluctant to operate on patients with HIV. This study shows that age and hypoalbuminemia are as important as CD4 count in HIV positive patients.

Guideline watch

US CDC STD treatment guidelines updated

http://www.cdc.gov/std/tg2015/tg-2015-print.pdf

Changes from earlier versions include

- the addition of Pre-Exposure Prophylaxis – PrEP - for prevention of HIV to the Clinical Prevention Guidance section
- front line treatment recommendations for gonorrhea is now a single dose of both intramuscular ceftriaxone (250 mg) and oral azithromycin (1 g). When injectables are not possible, single-dose oral cefixime (400 mg) plus oral azithromycin (1 g) can be used
- nucleic acid amplification testing (NAAT) can detect three to five times more*Trichomonas vaginalis* infections than wet-mount microscopy.
- *Mycoplasma genitalium* is a recognized cause of urethritis in men; although it can be found in 10% to 30% of women with cervicitis, its role as a pathogen in women is less certain. NAAT is the preferred method of diagnosis. Single-dose oral azithromycin (1 g) is currently the recommended treatment, but resistance is rapidly emerging. Oral moxifloxacin (400 mg daily for 7–14 days) is also effective.

DHR-ICMR Guidelines for diagnosis & management of Rickettsial diseases in India

Indian J Med Res 2015; 141: 417-22
http://www.ijmr.org.in/article.asp/issn=0971-5916;year=2015;volume=141;issue=4;spage=417;epage=422;aulast=Rahi

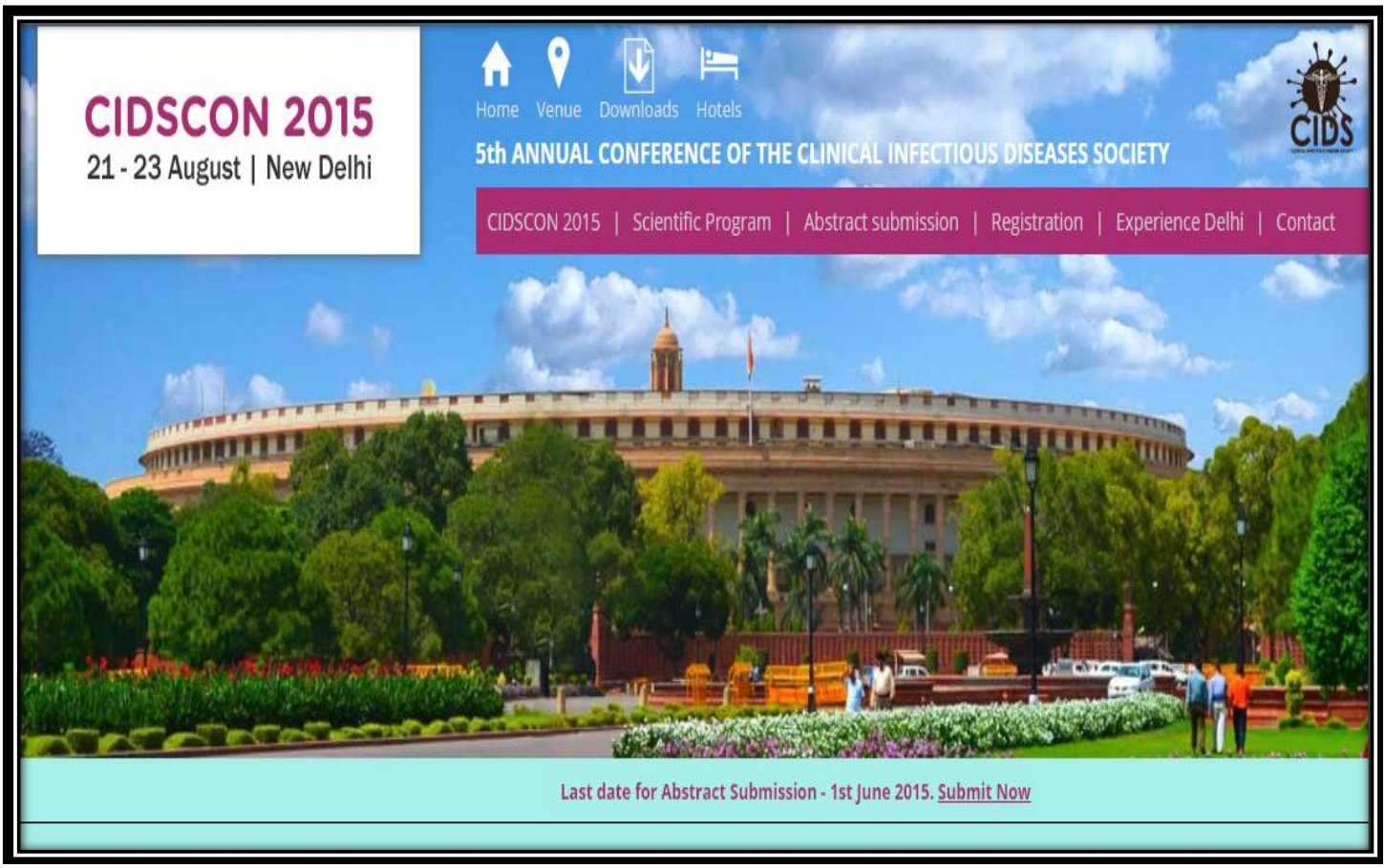
Opportunities and positions

Developing new diagnostics for TB:

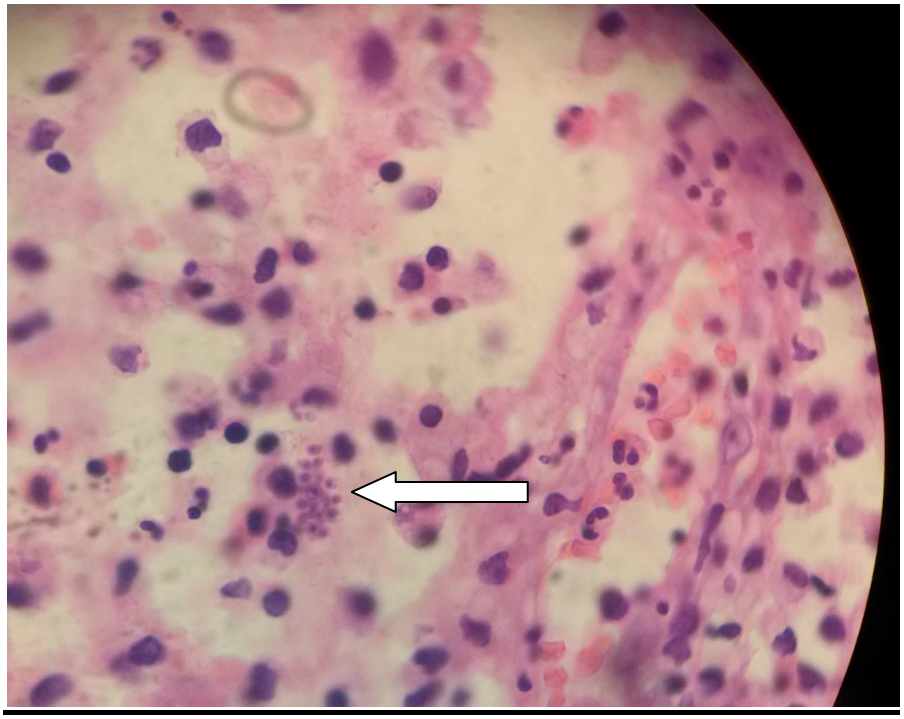
(courtesy Dr Madhukar Pai)

http://www.gc-tbc.com/

Upcoming conferences and meetings



Answer to photo quiz



Stereotactic brain biopsy showed tissue cyst containing intracellular bradyzoites of Toxoplasma gondii. Toxoplasmosis is a common cause of an intracranial ring enhancing lesion in AIDS patients and is usually seen with a CD4 count <100. It must be differentiated from tuberculoma and primary CNS lymphoma.

Diagnosis: Cerebral toxoplasmosis in AIDS.

(Case provided by Dr Madhumita R)