Volume 4, Issue 4

CIDS Newsletter

April 2017

Editor's note

Dear CIDS members

Please welcome our new office bearers from April 1st: Dr George K Varghese (President) and Dr Subramanian Swaminathan (Secretary). Dr George M Varghese will continue as Treasurer. We sincerely thank Dr Shyam Sundar and Dr V Ramasubramanian, our outgoing president and secretary respectively, for their services to the society.

Please note the changed dates for CIDSCON 2017 in Nagpur which will be now be from August 18-20. The earlier dates coincided with the Ganesh festival which might affect logistics and attendance. The conference website is http://www.cidscon.in/

See you at Nagpur where an excellent academic program awaits us.

Sincerely
Ram Gopalakrishnan

Photo quiz

A 65 year old male presented with complaints of breathlessness and increasing drowsiness for 3 days. He also had self -limited diarrhea for 3 days prior to the start of this illness. He had a history of chronic obstructive pulmonary disease (COPD) and was on 20 mg prednisone once a day for frequent exacerbations. The cerebrospinal fluid (CSF) picture was consistent with acute bacterial meningitis (leukocyte count of 500 cmm, of which 90% polymorphonuclear cells and CSF glucose level of 32 mg/dL at a serum glucose level of 150 mg/dL, and CSF proteins at 187 mg/dL). A Gram stain revealed Gram positive cocci in short chains. On day 4 his blood and CSF cultures subsequently grew penicillin resistant but vancomycin-susceptible Enterococcus faecalis. Transesophageal echocardiography did not reveal any vegetations.

What is your diagnosis?

News from the ID world

WHO publishes its first ever list of antibiotic-resistant "priority pathogens"

Priority 1: CRITICAL

- Acinetobacter baumannii, carbapenem-resistant
- Pseudomonas aeruginosa, carbapenem-resistant
- Enterobacteriaceae, carbapenem-resistant, ESBL-producing

Priority 2: HIGH

- Enterococcus faecium, vancomycin-resistant
- Staphylococcus aureus, methicillin-resistant, vancomycin-intermediate and resistant
- Helicobacter pylori, clarithromycin-resistant
- Campylobacter spp., fluoroquinolone-resistant
- Salmonellae, fluoroquinolone-resistant Neisseria gonorrhoeae, cephalosporin-resistant, fluoroquinolone-resistant

Priority 3: MEDIUM

- Streptococcus pneumoniae, penicillin-non-susceptible
- Haemophilus influenzae, ampicillin-resistant
- Shigella spp., fluoroquinolone- resistant

Many of us encounter these pathogens on a day to day basis during our daily practice. Prevention and

Union Cabinet clears National Health Policy

The Union Cabinet chaired by Prime Minister Narendra Modi finally gave its nod to the policy which has been pending for the last two years. The last National Health Policy was framed in 2002. The Policy proposes raising public health expenditure to 2.5% of the GDP in a time bound manner with two-thirds or more of resources going to primary care.

The policy has several targets concerning infectious diseases:

- Achieve global target of 2020 which is also
- Termed as target of 90:90:90, for HIV/AIDS i. e,- 90% of all people living with HIV know their HIV status, – 90% of all people diagnosed with HIV infection receive sustained antiretroviral therapy and 90% of all people receiving antiretroviral therapy will have viral suppression. (currently this number is 60:50:70 as per NACO)

- Achieve and maintain elimination status of Leprosy by 2018, Kala-Azar by 2017 and Lymphatic Filariasis in endemic pockets by 2017.

- To achieve and maintain a cure rate of >85% in new sputum positive patients for TB and reduce incidence of new cases, to reach elimination status by 2025.

Very ambitious targets indeed, but better late and ambitious than never!

Daily ATT regimen finally initiated and Conditional Access to Bedaquiline available

Under the Revised National Tuberculosis Control Programme (RNTCP), daily regimen for drug sensitive TB has finally been implemented across the country for TB-HIV co-infected patients and for all drug sensitive TB patients in five States (Himachal Pradesh, Sikkim, Bihar, Maharashtra and Kerala). The daily regimen will be scaled up across all the States/UT of the country. WHO recommends daily ATT during the intensive phase and preferably in continuation phase as well for all TB patients.

The programme has initiated Bedaquiline conditional access in 6 Institutes (National Institute of Tuberculosis & Respiratory Diseases and Rajan Babu Institute of Pulmonary Medicine & Tuberculosis, New Delhi, B.J.Medical College Ahmedabad, Government Hospital for Thoracic Medicine, Tambaram, Chennai, Guwahati Medical College Guwahati and Guru Teg Bahadur Sewree, Mumbai).

Reducing global tuberculosis deaths—time for India to step up

Lancet 2017.
DOI: http://dx.doi.org/10.1016/S0140-6736(17)30790-0

WHO estimates that India accounts for 2·8 million (27%) of the 10·4 million new cases, and 29% of the 1·8 million deaths. According to the Registrar General of India's Million Death Study, which documented causes of death in 1·4 million households, tuberculosis remained one of the top five causes of death among people aged 30–69 years.

This comment article from the Lancet points out the following reasons:

First, India has not adequately tackled key determinants of tuberculosis, especially malnutrition and tobacco smoking, which have been clearly linked with excess tuberculosis mortality.

Second, India continues to underinvest in health, with governmental expenditure on health being one of the lowest in the world at 1·4% of the gross domestic product.

Third, implementation failures and a weak health system have led to suboptimal cascade of care in the public system. About half a million patients with tuberculosis in India reach tuberculosis diagnostic facilities but are either not effectively diagnosed or not started on treatment. While RNTCP only reports data on the number of patients who complete tuberculosis therapy, a considerable proportion of these patients relapse with tuberculosis disease within 1 year of treatment completion.

Fourth, poor quality of tuberculosis care is a big concern in the private sector, a major provider of health services in India.

India is one of the few countries that is still reliant on intermittent tuberculosis drug regimens. Responding to activist petitions, in January, 2017, the Indian Supreme Court ordered the Indian Government to switch from intermittent tuberculosis therapy to an internationally accepted daily regimen.
The Minister of Finance in India's 2017 Union Budget outlined an ambitious goal of eliminating tuberculosis by 2025. Subsequently, RNTCP published its new draft National Strategic Plan for Tuberculosis Elimination 2017–2025. The plan is bold, comprehensive, and potentially a game changer. It is essential to follow up with full funding (estimated at US$2485 million in the new plan) for the new National Strategic Plan for Tuberculosis.

Snippets from the literature

Intra-season waning of Influenza Vaccine Protection

(courtesy Dr Pratik Patil)
CID 2017:64 (1 March) 544-550

The authors examined the association between influenza VE and time since vaccination among patients ≥9 years old with medically attended acute respiratory illness in the US Influenza Vaccine Effectiveness Network using data pooled from the 2011– 2012 through 2014–2015 influenza seasons. They observed decreasing VE with increasing time since vaccination for influenza A(H3N2) (P = .004), influenza A(H1N1)pdm09 (P = .01), and influenza B viruses (P = .04). Maximum VE was observed shortly after vaccination, followed by a decline in VE of about 7% (absolute) per month for influenza A(H3N2) and influenza B and 6%–11% per month for influenza A(H1N1)pdm09 viruses. Decline in VE was more pronounced among patients with prior-season influenza vaccination.
The authors observed decreasing influenza vaccine protection with increasing time since vaccination across influenza types/subtypes. Bottom line: taking a flu shot last year does not necessarily confer protection this year, so re-vaccinate annually and do so just prior to your local influenza peak season.

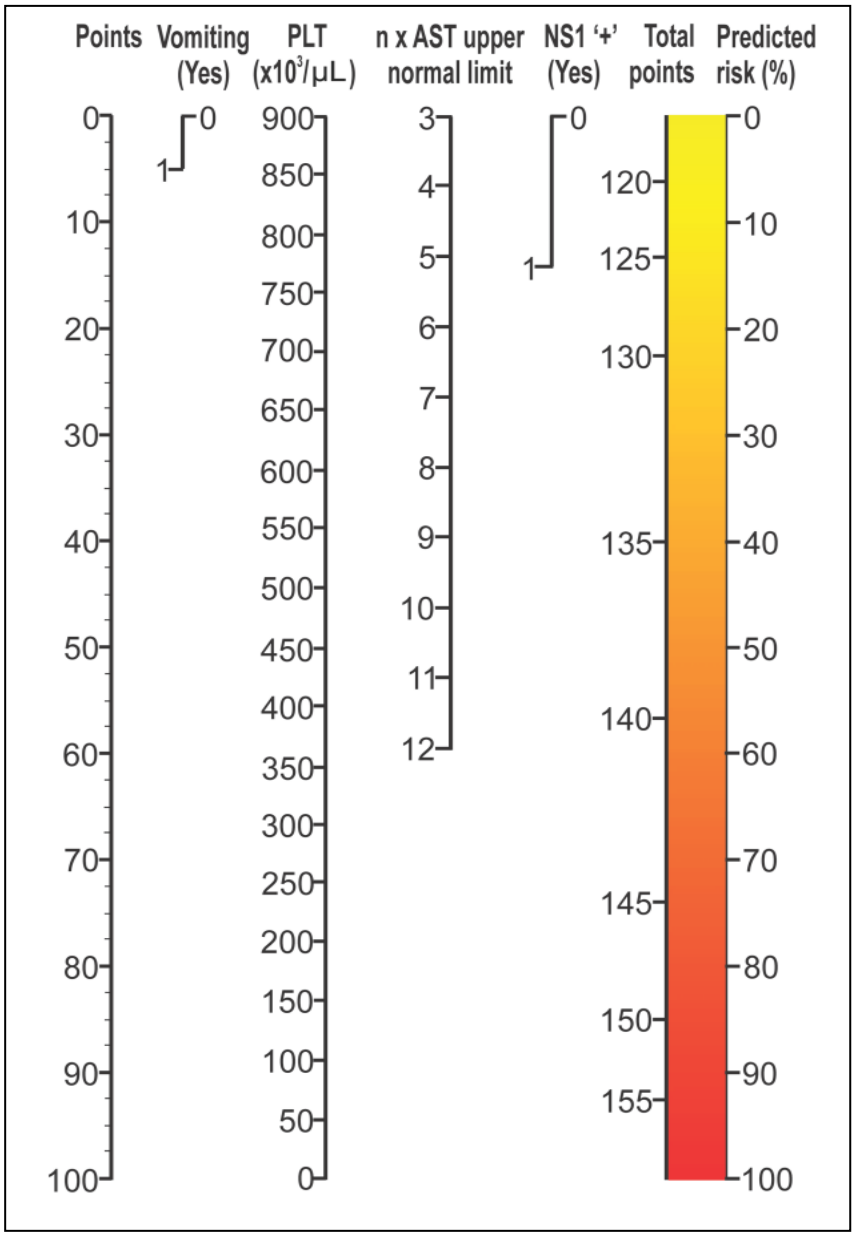
An Evidence-Based Algorithm for Early Prognosis of Severe Dengue in the Outpatient Setting

(courtesy Dr Pratik Patil)

Clin Infect Dis (2017) 64 (5): 656-663.

The authors prospectively investigated 7563 children with ≤3 days of fever recruited in the outpatient departments of 6 hospitals in southern Vietnam between 2010 and 2013. The analysis population comprised 7544 patients, of whom 2060 (27.3%) had laboratory-confirmed dengue; nested among these were 117 (1.5%) severe cases. In the multivariate logistic model, a history of vomiting, lower platelet count, elevated aspartate aminotransferase (AST) level, positivity in the nonstructural protein 1 (NS1) rapid test, and viremia magnitude were all independently associated with severe dengue.

The final prognostic model (Early Severe Dengue Identifier [ESDI]) included history of vomiting, platelet count, AST level and NS1 rapid test status. These simple tools can be used in clinical practice.



Dosing Guidance for Intravenous Colistin in Critically Ill Patients

(courtesy Dr Pratik Patil)

Clin Infect Dis (2017) 64 (5): 565-571

Table 3. "Look-up" Table of Daily Doses of Colistimethate for a Desired Target colistin $C_{ss,avg}$ of 2 mg/L for Narrow Windows of Creatinine Clearance

Creatinine clearance, mL/min	Dose of Colistimethate for $C_{ss,avg}$ of 2 mg/L[a]	
	CBA, mg/d	Million IU/d
0	130	3.95
5 to <10	145	4.40
10 to <20	160	4.85
20 to <30	175	5.30
30 to <40	195	5.90
40 to <50	220	6.65
50 to <60	245	7.40
60 to <70	275	8.35
70 to <80	300	9.00
80 to <90	340	10.3
≥90	360	10.9

Table 2. Suggested Loading and Daily Doses of Colistimethate for a Desired Target colistin $C_{ss,avg}$ of 2 mg/L in Various Categories of Critically ill Patients

Dose	Category of Critically Ill Patient	Dosing Suggestions[a]
Loading dose	All patient categories	Equation 1: Loading dose of CBA (mg) = $C_{ss,avg}$ target (mg/L) × 2.0 × ideal body weight (kg) To achieve a $C_{ss,avg}$ of 2 mg/L in a patient with an ideal body weight of 75 kg, the loading dose would be 300 mg CBA (9 million IU), the suggested maximum loading dose. The 1st regular daily dose should be administered 12 h later.
Daily dose[b]	Not receiving RRT	Equation 2[c]: Daily dose of CBA (mg) = $C_{ss,avg}$ target (mg/L) × $10^{(0.0048 \times CrCl + 1.825)}$ See Table 3 ("look-up" table) for the daily dose to target a plasma colistin $C_{ss,avg}$ of 2 mg/L, depending on the patient's creatinine clearance.
	Receiving RRT	The baseline daily dose of colistimethate for a $C_{ss,avg}$ of 2 mg/L in a patient with creatinine clearance of 0 mL/min is 130 mg/d of CBA (3.95 million IU/d) (see Table 3)[d]; the supplement to the baseline daily dose needed during receipt of RRT is 10% of the baseline dose per 1 h of RRT.
	Intermittent hemodialysis	Nondialysis day: CBA dose of 130 mg/d (3.95 million IU/d), ie, baseline dosing for a $C_{ss,avg}$ of 2 mg/L; dialysis day supplement: add 30% or 40% to baseline daily dose after a 3- or 4-h session, respectively.[e] The dialysis session should occur toward the end of a colistimethate dosing interval, and the supplement to the baseline (nondialysis) daily dose should be administered with next regular dose, after the dialysis session has ended.
	SLED	During SLED: add 10% per 1 h of SLED replacement to baseline daily dose for a $C_{ss,avg}$ of 2 mg/L[f]; for a patient receiving a 10-h nocturnal SLED session each day and receiving colistimethate every 12 h, the dose would be (baseline CBA dose of 130 mg/d for a patient with creatinine clearance of 0 mL/min + supplemental dose comprising 10% of the baseline dose per h × 10 h); ie, for this case the CBA dose would be 260 mg/d (7.9 million IU/d). It is suggested that the SLED session begin 1–2 h after the afternoon/evening dose; in such a case, it may be most convenient and safe to administer 130 mg CBA (3.95 million IU) every 12 h.
	CRRT	During CRRT: add 10% per 1 h of CRRT to the baseline daily dose for a $C_{ss,avg}$ of 2 mg/L[g]; the suggested CBA dose is 440 mg/d (~13 million IU/d).

This paper provides much needed guidance on dosing of colistin (polymyxin E): however clinicians are now also using polymyxin B which has much less efficacy data but apparently needs no dosing adjustment with renal dysfunction.

Primary and acquired drug resistance patterns of Mycobacterium tuberculosis isolates in India: a multicenter study

(courtesy Dr Amarjit Singh Vij)
J Infect Public Health. 2013; 6(6):456-64

The authors analyzed 327 M. tuberculosis isolates from patients who were cared for at three different health care centers, hereinafter known as study areas (SAs), in North India. Of the 327 total M. tuberculosis isolates, 255 were from a tertiary health care center (Varanasi, Uttar Pradesh [SA-1]), 48 were from a District tuberculosis center (Sawai Madhopur, Rajasthan [SA-2]), and 24 were from a different District tuberculosis center (Buxar, Bihar [SA-3]). Drug susceptibility testing against first-line antibiotics (viz. isoniazid, rifampicin, streptomycin, and ethambutol) was conducted for all the isolates using 1% proportional method. Rates of acquired resistance were consistently higher than the rates of initial drug resistance. In new, untreated cases, a higher degree of MDR-TB was observed at SA-1 (13.3%) and SA-3 (25.0%), whereas it was observed in only 7.1% of the isolates at SA-2. In previously treated patients, MDR cases were found in 35.7% of the isolates from SA-1, 66.6% of the isolates from SA-2, and 43.8% of the isolates from SA-3. Resistance to a single drug was found at a much lower rate, ranging from 0.0 to 6.3% in new cases as well as previously treated cases.

In conclusion, the primary resistance of M. tuberculosis is low, but acquired drug resistance is slightly higher in North India.

Guideline Watch

Treatment Guidelines for Antimicrobial Use in Common Syndromes

Indian Council of Medical Research Department of Health Research
http://www.icmr.nic.in/guidelines/treatment%20guidelines%20for%20antimicrobial.pdf
ICMR has asked readers to send comments or feedback on guidelines to icmr.project2015@gmail.com subject "ICMR treatment guidelines".

Primary Prevention of Cervical Cancer

American Society of Clinical Oncology
http://www.asco.org/practice-guidelines/quality-guidelines/guidelines/resource-stratified#/24681
In all resource settings, two doses of human papillomavirus vaccine are recommended for girls age 9 to 14 years, with an interval of at least 6 months and possibly up to 12 to 15 months. Individuals with HIV positivity should receive three doses.
Maximal and enhanced settings: if girls are age ≥ 15 years and received their first dose before age 15 years, they may complete the series; if no doses were received before age 15 years, three doses should be administered; in both scenarios, vaccination may be through age 26 years.
Limited and basic settings: if sufficient resources remain after vaccinating girls age 9 to 14 years, girls who received one dosemay receive additional doses between age 15 and 26 years.
Maximal, enhanced, and limited settings: if ≥ 50% coverage in the priority female target population, sufficient resources, and cost effectiveness, boys may be vaccinated to prevent other noncervical human papillomavirus–related cancers and diseases. Basic settings: vaccinating boys is not recommended.

Chandra's corner

(Dr PH Chandrasekar)

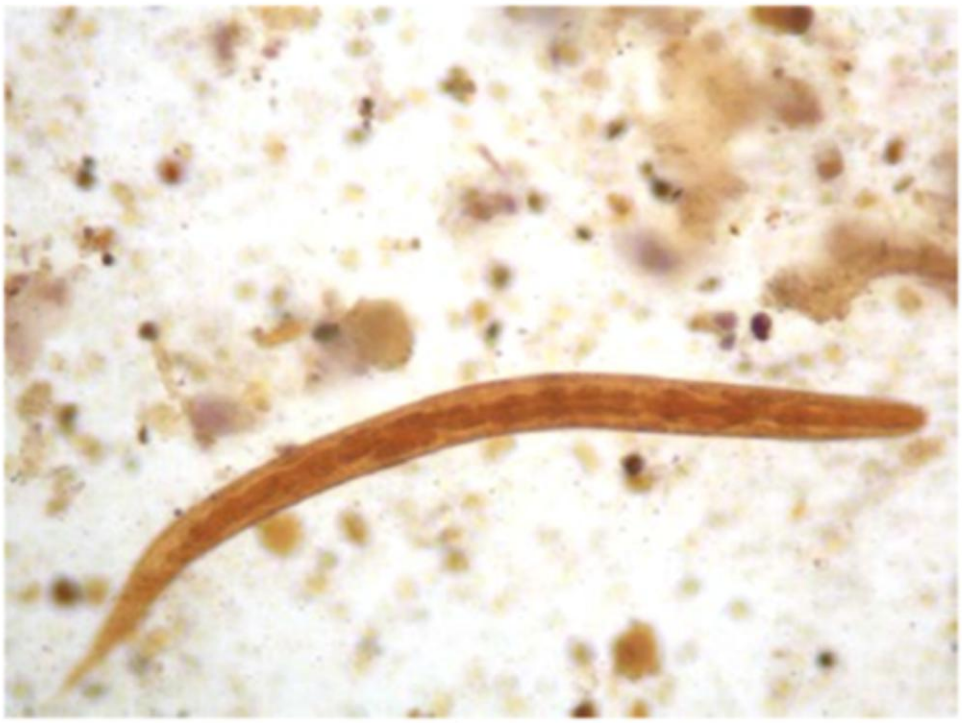
Colleagues,
2017 is marching on swiftly. Weather in Detroit has been pleasingly warm in the middle of February, staying true to global warming. US politics, of course, is hot with the businessman Mr. Trump continuously generating worthy or unworthy news. There has not been a single dull day, competing closely with the politics of Tamil Nadu. The biggest parallel I see is that they are both Oscar-worthy.

Speaking of entrepreneurial business, something caught my eye in the New York Time this past weekend. New York stores have made available an unusual item on the shelves: non-toxic, eco-friendly vegan condoms! The latex in this brand comes from a Fair Trade rubber plantation in South India. The factory is solar powered and the condoms are free from nitrosamines, possible carcinogens found in small amounts in many other brands. To hype their product, the producers of this brand (sustain) posted a video titled, "Are Condoms Killing You". Critics have called these entrepreneurs "dangerous alarmists". Readers, if you're into vegan products, keep on the lookout for vegan condoms. The article in the New York times was aptly titled, "Taking intimate protection to another level!" Just don't eat them.

Last week, at the ID Grand Rounds at Wayne, the story of a cachectic 26-year-old Detroit man was told. The inner city of Detroit is well known for its violence, and our hospital is #1 Trauma Center for the city. This man had been heavily assaulted and had sustained multiple fractures involving his face, ribs and a lacerated spleen. Our trauma surgeons are superb, considered some of the best in the country. The team worked hard on him around the clock; on the third day, as he had a febrile episode and his mentation was not as expected, a consultation for Infectious Diseases was placed. A CSF exam revealed pneumococcal meningitis and the speculation was that the facial fracture led to a CSF leak and consequent pneumococcal infection of the subarachnoid space. However the ID physician did not rest there. Based on clinical suspicion, with further work-up, this cachectic patient was found to have neuorsyphilis as well as advanced HIV infection. These additional diagnoses would most likely have been missed, had there been no ID team's involvement. I am sure each of you have similar stories to tell that demonstrate the contribution of the ID service. This patient, as I write this column, is struggling to remain alive.

Michigan ID Society has an annual meeting every March and the Chief Guest for this year is Barron Lerner, M.D., a bioethicist and author of the book, "The Good Doctor", which describes the life story and struggles of his dad, Phillip Lerner, M.D. Senior Lerner was a renowned, superb ID clinician in the U.S. He firmly believed in old school medicine-paternalistic approach to patient care, which today's ethicists abhor. As you well know, patient's autonomy considered sacred, reigns supreme today, thus patients and their families are routinely involved in every decision making unlike the old days when the treating physicians made all critical decisions with little input from the patient or his/her family. The Good Doctor is a beautifully written account about the ethical and moral dilemmas as he took care of his dying dad and his own beliefs vs dad's beliefs. The author brings together the two seemingly contradictory philosophies of the paternalistic and humanistic approaches. Yet, at the end, he finds middle ground as he takes care of his dad who succumbs to Parkinsonism. I think as an ID physician you will enjoy reading this book.

Answer to photo quiz

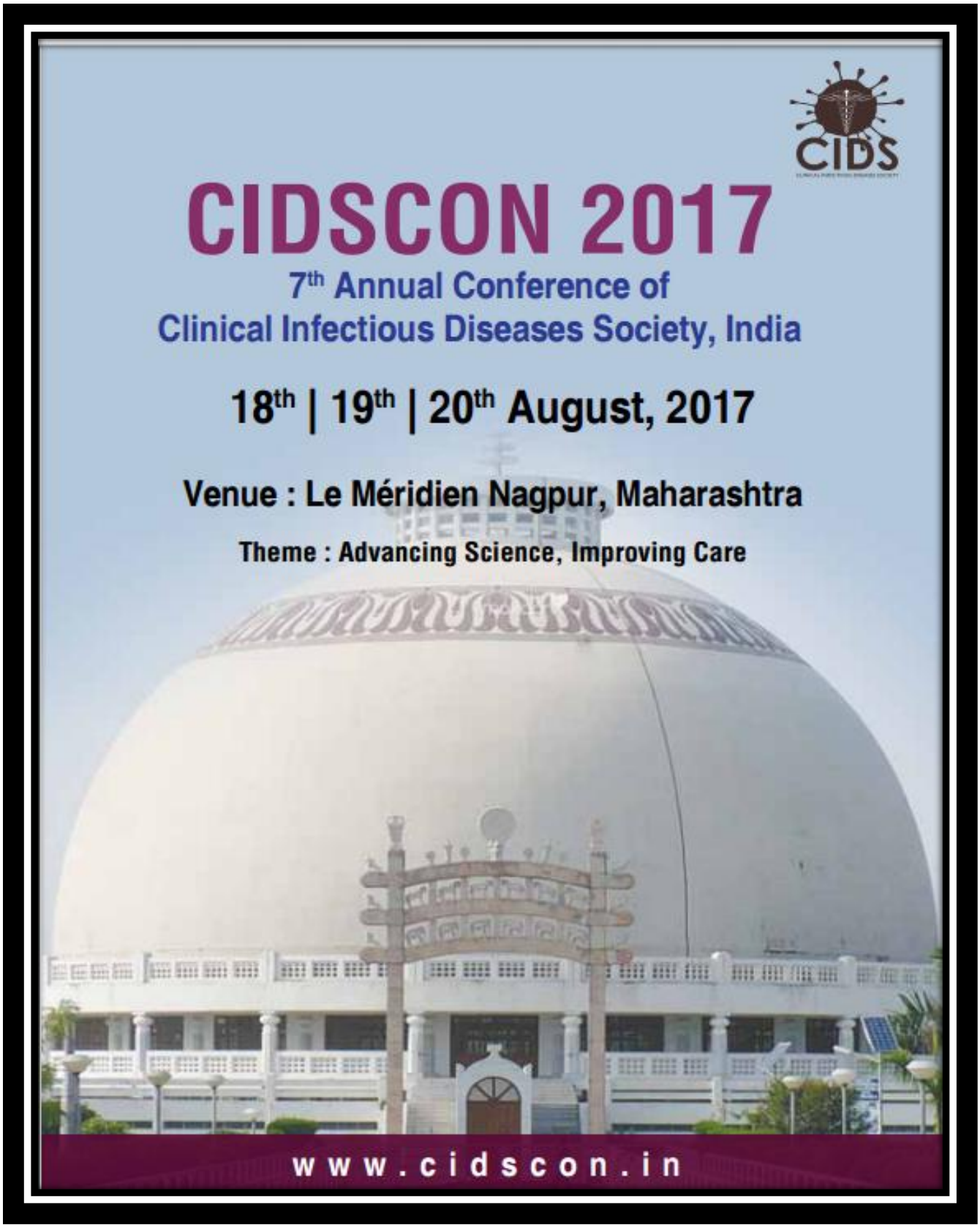


Direct wet mount, magnification 50x.

Figure 1. The rhabditiform *Strongyloides* larva is seen in a stool sample of Case 1

Enterococcal meningitis has been reported in association with stool hyper-infection with Strongyloides larvae. The most common risk factor for developing severe complicated Strongyloides infection is corticosteroid use.

Final diagnosis: Enterococcal meningitis associated with Strongyloides stercoralis hyper-infection.
(case provided by Dr Kalpesh Sukhwani)


CIDS
CIDSCON 2017
7th Annual Conference of
Clinical Infectious Diseases Society, India
18th | 19th | 20th August, 2017
Venue : Le Méridien Nagpur, Maharashtra
Theme : Advancing Science, Improving Care
www.cidscon.in

Welcome to CIDSCON 2017!

Dear Colleagues,

The Clinical Infectious Diseases Society is proud to host the 7th annual conference CIDSCON 2017, at Nagpur from 18th to 20th August 2017 and pleased to welcome you for an academic marathon and get together.

"The way of success is the way of continuous pursuit of knowledge."

With the theme 'Advancing science and improving care' we aim to update recent developments in the field of ID, targeting infections in a variety of hosts including the immuno-compromised, effects of immuno-modulation, PK/PD of antibiotics, tropical infections, tuberculosis, invasive fungal infections, transplant ID, HIV & AIDS, antimicrobial stewardship, infection control and many more! This veritable feast will have many National and International stars as faculty.

CIDS, since its inception, has been striving hard not only to enhance and share the treasure of knowledge amongst the medical fraternity, but has also been taking measures to help implement evolving trends to improve our practice in the field of ID.

At Nagpur, we aim to continue and strengthen this tradition and provide you the company of some of the best from an array of infectious diseases specialists from around the globe. Our focus is to create a platform for you to share your experience, discuss your views and upgrade the knowledge in this discipline of medicine.

Nagpur, famous for its oranges, also called "Tiger capital of India, for the rich wildlife nearby and surely a jungle safari at the end of the conference would be a refreshing and rejuvenating experience.

We welcome you for this bonanza !

Dr. V Ramasubramanian
Organizing Chairperson

Dr. O C Abraham
Scientific Committee Chairperson

Dr. Ashwini Tayade
Organizing Secretary

Important Dates

Last Date for Abstract Submission
31st May, 2017

For Online Abstract Submission and Guidelines logon to
www.cidscon.in

Last Date for Earlybird Registration
15th April, 2017

For Online Payment and registration logon to
www.cidscon.in