Volume 3, Issue 10

CIDS Newsletter

October 2016

CLINICAL INFECTIOUS DISEASES SOCIETY

Editor's note

Dear CIDS members,

I welcome letters from you in response to news items and articles published in the newsletter. For instance, Dr PH Chandrasekar has raised some issues in his column in this issue, for which I welcome comments and suggestions (can mail me at gopalmeena_2000@yahoo.com). This will also help improve content of our newsletter.

I also welcome any interesting cases you encounter in your practice for the photo quiz section.

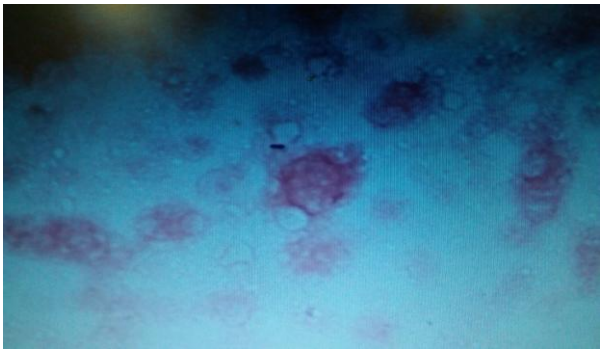
Sincerely

Ram Gopalakrishnan

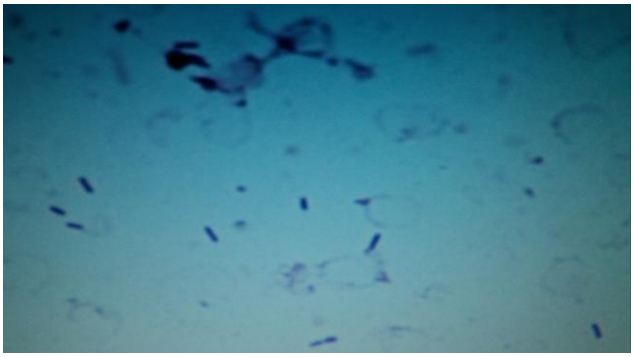
Photo quiz

A 62/F with retro-peritoneal fibrosis who was on prednisone 7.5 mg and mycophenolate presented with fever, headache and vomiting for 1 day. On exam she was confused, had neck stiffness and right lateral rectus palsy. WBC count was 18,200 (P89) and CT brain with contrast was normal. CSF analysis showed 425 WBC (L92 P8), glucose of 26 (blood glucose was 196) and protein was 230. CSF and blood culture bottle Gram stains are shown

CSF Gram stain



Gram stain of blood culture bottle



What is your diagnosis?

New members

We welcome the following new members to CIDS:

CIDS New members	
Dr. Srujana Mohanty	Bhubaneswar
Dr. Baijayanti Mala Mishra	Bhubaneswar
Dr. Manodeep Sen	Lucknow

News from the ID world

Is India next in line for a Zika epidemic?

Lancet ID 01 September 2016

The authors aimed to identify regions and times where the potential health, economic, and social effects from Zika virus are greatest, focusing on resource-limited countries in Africa and the Asia-Pacific region. Their model combined transportation network analysis, ecological modelling of mosquito occurrences, and vector competence for flavivirus transmission, using data from the International Air Transport Association, entomological observations from Zika's primary vector species, and climate conditions using WorldClim. They overlaid monthly flows of airline travellers arriving to Africa and the Asia-Pacific region from areas of the Americas suitable for year-round transmission of Zika virus with monthly maps of climatic suitability for mosquito-borne transmission of Zika virus within Africa and the Asia-Pacific region. India, China, Indonesia, the Philippines, and Thailand topped the list.

When the investigators also considered per-capita health expenditure as a proxy of a country's capacity to find and respond to Zika importations, they identified India, the Philippines, Indonesia, Nigeria, Vietnam, Pakistan, and Bangladesh as countries with high risk and high population consequences.

Emergence of Candida auris, a multidrug-resistant Candida species

(courtesy Dr Surabhi Madan)

In 2016, the United States Centers for Disease Control and Prevention (CDC) and Public Health England issued warnings about the emergence of a multidrug-resistant *Candida* species, *C. auris*. It has been detected in nine countries on four continents, including Japan, South Korea, India, South Africa, Kuwait, Pakistan, the United Kingdom, Colombia, and Venezuela. *C. auris* requires specialized methods for identification and it could therefore be misidentified as another yeast when using traditional biochemical methods. Nearly all *C. auris* isolates have had high minimum inhibitory concentrations (MICs) for fluconazole, suggesting that they are fluconazole-resistant. More than half of isolates have had high MICs for voriconazole, and a lower proportion for amphotericin B and echinocandins. Some isolates have had elevated MICs for all three major antifungal classes (azoles, polyenes, echinocandins).

Many Indian centers encounter C.auris (may be misidentified as C haemulonii).

US FDA issues final rule on safety and effectiveness of antibacterial soaps

(courtesy Dr Surabhi Madan)

The U.S. Food and Drug Administration issued a final rule establishing that over-the-counter (OTC) consumer antiseptic wash products containing certain active ingredients can no longer be marketed. Companies will no longer be able to market antibacterial washes with these ingredients because manufacturers did not demonstrate that the ingredients are both safe for long-term daily use and more effective than plain soap and water in preventing illness and the spread of certain infections. Some manufacturers have already started removing these ingredients from their products.

Some familiar Indian soaps may no longer be able to sing their familiar advertising tunes!

MCI recognizes FNB, and DM in ID now a reality

(contributions from Dr Dilip Mathai and Dr Madhumita R)

In a notification in the Gazette of India on Aug 3rd, the Medical Council of India has recognized the FNB in Infectious Diseases, which has been offered from 2008, as a medical qualification. However according to the notification, the FNB qualification *"shall not be treated as a recognized medical qualification for the purpose of teaching faculty".* Our past president Dr Dilip Mathai feels that this is counterproductive and will limit the number of teaching faculty who will be available for Infectious Disease training: hopefully this rule will be changed. It is also hoped that FNB will changed to a three year DNB in the near future, now that DM in Infectious Diseases has been started by AIIMS in January 2016 and more recently by CMC, Vellore (the first MCI recognized course at a center with an ID Dept). There are also two year fellowships in ID offered by state university affiliated programs such as the Tamilnadu Dr MGR Medical University.

These increases in formal training opportunities in ID should hopefully attract young MDs to our specialty and our society.

Intravenous fosfomycin now made and available in India

The drug is available as a 4g dose with daily doses ranging around 12-18 g per day in the treatment of critically ill patients with MDR-GNB infections. Colistin resistant organisms such as E coli and perhaps Klebsiella may respond though Pseudomonas is usually resistant. Main side effects are sodium overload and hypokalemia.

Snippets from the literature

Vitamin D as Adjunctive Host-Directed Therapy in Tuberculosis: A Systematic Review

Open Forum Infect Dis (Summer 2016) 3 (3):doi: 10.1093/ofid/ofw151

Eight randomized controlled trials examined vitamin D as adjunctive therapy during tuberculosis treatment. The studies varied substantially regarding patient genetic backgrounds, the extent of baseline VDI, the administered dose, the study endpoints, and the quality of the reported data. One carefully performed study in which moderately large vitamin D doses were given to markedly VDI patients found a benefit sufficient to support shortening treatment from 6 to 4 months, although other similar studies did not. Vitamin D is thought to have anti-inflammatory effects. However, 2 studies reported 3 vitamin D recipients with severe paradoxical inflammatory reactions.

In one of the studies from India, there was no benefit to supplementation. Vitamin D plays an important role in innate defenses against intracellular pathogens, but by the time clinical tuberculosis develops, replacement may not help.

Population-based resistance of *Mycobacterium tuberculosis* isolates to pyrazinamide and fluoroquinolones

Lancet ID Volume 16,No. 10, p1185-1192, October 2016

In a molecular epidemiology analysis, the authors used population-based surveys from Azerbaijan, Bangladesh, Belarus, Pakistan, and South Africa to investigate resistance to pyrazinamide and fluoroquinolones among patients with tuberculosis. Pyrazinamide resistance was assessed in 4972 patients. Levels of resistance varied substantially in the surveyed settings (3·0–42·1%). In all settings, pyrazinamide resistance was significantly associated with rifampicin resistance. Among 5015 patients who underwent susceptibility testing to fluoroquinolones, proportions of resistance ranged fro--m 1·0–16·6% for ofloxacin, to 0·5–12·4% for levofloxacin, and 0·9–14·6% for moxifloxacin when tested at 0·5 μg/mL. High levels of ofloxacin resistance were detected in Pakistan. Resistance to moxifloxacin and gatifloxacin when tested at 2 μg/mL was low in all countries.

Although pyrazinamide resistance was significantly associated with rifampicin resistance, this drug may still be effective in 19–63%. Pyrazinamide and fluoroquinolones are essential antituberculosis drugs in new WHO endorsed 9 month rifampicin-sparing regimens for MDR-TB, which should be used with caution till resistance to these drugs is excluded.

Use of quantitative molecular diagnostic methods to identify causes of diarrhoea in children

Lancet Volume 388, No.10051, p1291-1301, 24th September 2016

The authors used quantitative real-time PCR (qPCR) to test for 32 enteropathogens in stool samples to reassess causes of diarrhoea in the Global Enteric Multicenter Study (GEMS) of moderate to severe diarrhoea in children younger than 5 years in Africa and Asia. The six most attributable pathogens became, in descending order, *Shigella* spp, rotavirus, adenovirus 40/41, ST-ETEC, *Cryptosporidium* spp, and *Campylobacter* spp.

Apart from rotavirus, the other pathogens are not vaccine preventable but some can be treated if disease is severe. Multiplex PCR testing is available in India and is particularly useful for immune compromised patients or severe diarrhea.

Impact of Reported Beta-Lactam Allergy on Inpatient Outcomes: A Multicenter Prospective Cohort Study

(courtesy Dr Surabhi Madan)

Clinical Infectious Diseases® 2016;63(7):904–10

A prospective cohort study of 507 patients to determine the burden and clinical impact of reported beta-lactam allergy was carried out. The primary outcome was a composite measure of readmission for the same infection, acute kidney injury, Clostridium difficile infection, or drug-related adverse reactions requiring discontinuation. Predictors of interest were history of beta-lactam allergy and receipt of preferred beta-lactam therapy. The conclusions of the study were that avoidance of preferred beta-lactam therapy in patients who report allergy is associated with an increased risk of adverse events. Development of inpatient programs aimed at accurately identifying beta-lactam allergies to safely promote beta-lactam administration among these patients is warranted

Novel test may rapidly differentiate between viral, bacterial infections

(courtesy Dr Surabhi Madan)

JAMA. 2016;doi:10.1001/jama.2016.11236.

In a cross-sectional study that included 370 febrile children in London, Spain, the Netherlands and the United States, RNA micro arrays data showed that 2-transcript host RNA signature genes, *IFI44L* and *FAM89A*, became switched on in bacterial infections. In further analysis, among those with confirmed bacterial infection, these genes predicted bacterial infections with 100% accuracy with 2-transcript RNA signature in the validation group (95% CI, 100-100). Among those with definite viral infection, the genes showed a specificity of 96.4% (95% CI, 89.3-100) for viral infection.

The results show bacterial infection can be distinguished from other causes of fever, such as a viral infection, using the pattern of genes that are switched on or off in response to the infection.

Guideline watch

Guideline Update: Official American Thoracic Society/Centers for Disease Control and Prevention/Infectious Diseases Society of America Clinical Practice Guidelines: Treatment of Drug-Susceptible Tuberculosis

(courtesy Dr Surabhi Madan)

Clinical Infectious Diseases® 2016;63(7):853–67

WHO guidelines for the treatment of *Treponema pallidum* (syphilis)

Source: WHO, August ‘16

Link: http://www.who.int/reproductivehealth/publications/rtis/syphilis-treatment-guidelines/en/

WHO guidelines for the treatment of *Neisseria gonorrhoeae*

Source: WHO, August ‘16

Link: http://www.who.int/reproductivehealth/publications/rtis/gonorrhoea-treatment-guidelines/en/

Chandra's Corner

(courtesy Dr PH Chandrasekar)

Notes from the United States

Colleagues:

The return journey after CIDSCON from Varanasi to Detroit via New Delhi and Frankfurt was long and arduous, nevertheless, I certainly was glad to escape the heat and humidity. As always, I enjoyed meeting "old" friends, making new friends and of course the sessions. Please allow me to use this forum to share my thoughts about the CIDSCON meeting and the future of our Society.

The annual meeting sessions are of good quality for the most part. I can see the quality of presentations steadily improving over the years. The talks are informative, up-to-date and most speakers stick to the time permitted. And now, for the not-so-positives, I find the audience not getting larger. Our Society's growth is at a snail's pace considering the number of eager, young, interested individuals including microbiologists who we have failed to attract. A systematic plan to bring in younger folks is lacking. Adding 10-20 members annually is woefully inadequate for our organization to remain vibrant. More efforts are needed throughout the year and particularly during CIDSCON to expand the membership. A subcommittee to come up with creative strategies will be welcome. Without young blood continuously coursing through the veins of the Society, CIDS will rapidly reach premature senility, a fate none of us would like to see.

I have mentioned to several colleagues in the past - We continue to talk to each other, "I will listen to you, you listen to me, thank you." Many speakers give a good review of the topic, barely any new information or thoughts. Speakers' roster needs a shake up and expansion. Inclusion of experts from pharmaceutical, governmental and academic (not directly ID-related) sectors will bring fresh voices and importantly, new perspectives. Again, exercising creativity in drawing the program is essential rather than being content with the customary "boiler plate" template.

The Society needs to penetrate the government sector. We realize the severe inadequacy of education available for the primary care physician, yet not enough is being done through CIDS. We give up too easy. Let us spend some time to figure out avenues to reach the government-employed physicians/health care givers at various levels including at public medical schools. Absence of government sector at the CIDSCON is a glaring omission, year after year. Overcrowding with private hospital physicians may suffocate the society in the long run. "Elitism" and cronyism are creeping into the annual program. No doubt the task is difficult and challenging, but with careful planning, progress can be made. Can we not work in collaboration with pharmaceutical companies to address this issue?

Walking through the Poster Session made me happy. Most youngsters are eager to learn, to advance their knowledge; it is truly heartwarming. The quality of posters was good, the potential is great. Appropriate mentoring would go a long way in the creation of a highly interactive, vibrant society.

Finally, I was glad to hear at the general body meeting that the society has a decent financial standing. We have a nest egg! Here's my suggestion for a useful way to invest the money—invest in sound, carefully thought out, yet simple clinical research projects. An example could be a retrospective, multicenter project on a relevant topic, that may help answer some clinical questions. The project and the awardees may be decided by the leadership. Just imagine, under the auspices of CIDS, the project, hopefully, will generate useful publishable data that all of us can be proud of and may lead to evidence-based changes in the way we practice. Let us be exploitatively creative in our ways of thinking, and not just be complacent.

Best wishes,

C.

Upcoming meetings and conferences

National Conference of AIDS Society of India (ASICON)
Oct 7-9, Mumbai
www.asi-asicon.org

3rd Transplant Infectious Diseases Conference (endorsed by CIDS)
Oct 7-9, Ludhiana and Chandigarh
Contact Dr Priscilla Rupali (tropmed@cmcvellore.ac.in or priscillarupali@yahoo.com)

MYCOCON 2016
Nov 11-13, Mumbai
Contact mycocon2016@gmail.com or Dr Rajeev Soman (rajeev.soman@yahoo.com)

Position vacant

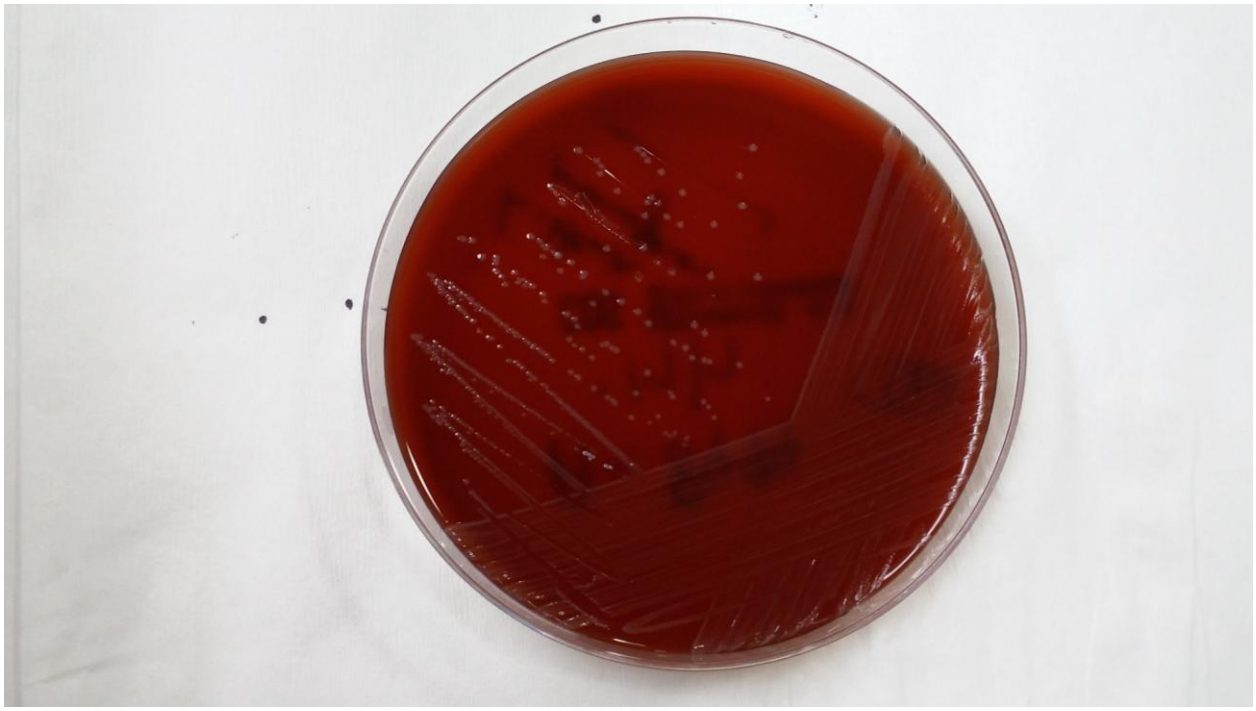
There is an opening for the 2-yr ID fellowship starting July 2017 at Wayne State University, Detroit, USA.

Basic requirement is USMLE parts 1 and 2. For details contact Dr PH Chandrasekar.

(pchandrasekar@med.wayne.edu)

Answer to photo quiz

Blood and CSF grew *Listeria monocytogenes*. She gave a history of consuming salad and juice made from vegetables which were often refrigerated for several days prior to consumption. She improved on therapy with ampicillin and gentamicin.



Listeria meningitis usually occurs in patients with T cell mediated immune defects and should be considered in these patients as well as in those above 60 years of age.

Final diagnosis: *Listeria monocytogenes* meningitis and bacteremia

(case provided by Dr Rajalakshmi A)