Volume 4, Issue 6

CIDS Newsletter

June 2017

CLINICAL INFECTIOUS DISEASES SOCIETY

Editor's note

Dear CIDS members

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

Please plan on attending the general body meeting on the evening of August 19th. If you have concerns or question to be discussed at the GBM, please write to any of the office bearers to list the item for discussion.

Sincerely

Ram Gopalakrishnan

Photo quiz

A 66-year old lady from Thailand s/p live-donor liver transplantation (2012) performed for HBV related chronic liver disease presented with focal painful nodular non-ulcerating lesions on the right wrist, upper limb (Figure 1) & buttocks since 3 months She had associated low grade fever & weakness. There was no cough, past history of tuberculosis or trauma. She was on MMF, steroids and tacrolimus and was not taking INH or TMP/SMX currently. She also had diabetes mellitus with chronic kidney disease (baseline creatinine- 2 mg%).
Biopsy from Thailand was suggestive of chronic necrotizing granulomatous inflammation.
MRI at our center revealed subcutaneous abscesses with tenosynovitis with osteomyelitis (Figure 2). CT chest was normal with no parenchymal infiltrates. HIV was negative. Repeat biopsy revealed a positive AFB stain.

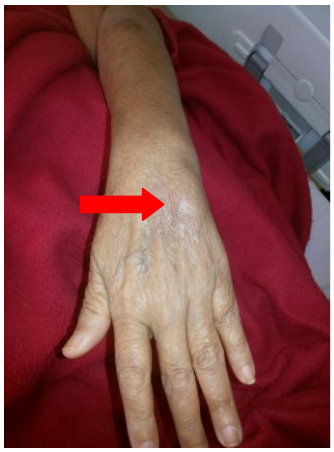


Fig 1: Multiple subcutaneous swellings

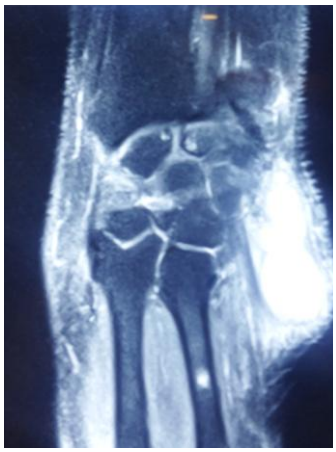


Fig 2: Subcutaneous abscess with tenosynovitis with osteomyelitis

What is your diagnosis?

News from the ID world

Anti-encephalitis campaign for 38 UP districts launched

UP Chief Minister Yogi Adityanath launched a campaign to eradicate JEV and AES in 38 districts in the worst-affected eastern region of the state. "Today's campaign has been started with the aim of eradicating encephalitis of all kinds — Japanese Encephalitis (JE) and Acute Encephalitis Syndrome (AES)– and making the state encephalitis-free in the coming few years," he said. "We are trying to provide piped water supply but it may take some time…but in areas which have handpumps, people should consume boiled water," the chief minister said, adding that the disease can be checked through clean potable water, effective cleanliness programmes and through such immunisation schemes. "There is another effort to provide proper treatment to those affected by the disease at the community health centres and district hospitals and see that only the serious patients reach BRD medical college hospital in Gorakhpur," he said. He added that a special training programme for doctors and para-medical staff is being held in the BRD medical college for the purpose. The immunisation campaign will continue till June 11. Children up to 15 years of age have been included in it. The drive will cover over 88 lakh children for which the central government has provided one crore vaccines.

Around 85 per cent cases of JE and AES are reported among Dalits and minorities. Though vaccines are available for JE, there is no such vaccine for checking AES and better hygiene is the only way to ward it off.

Zika hits India

Three cases of Zika have been reported from the city of Ahmedabad, Gujarat. All three cases were uncomplicated, had no travel history, were isolated and did not affect women in early pregnancy. No further cases have been encountered as per the government.

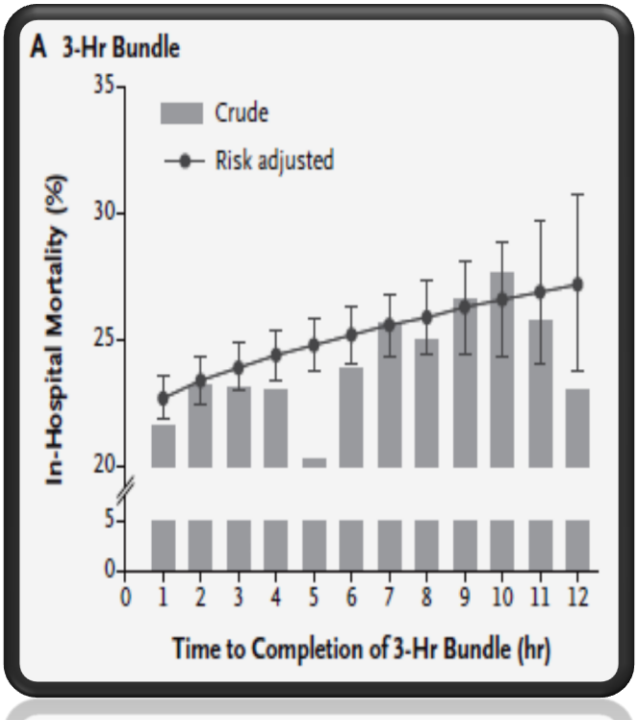
Strangely, while the three cases were detected in Nov 2016, Jan and Feb 2017 respectively, WHO and the scientific community was not informed till May. Given the rapid spread of dengue and Chikungunya in India, one hopes Zika will not use the same Aedes mosquito vector to spread all over India. Clinicians had better start referring cases compatible with Zika but negative for dengue to the government for further tests.

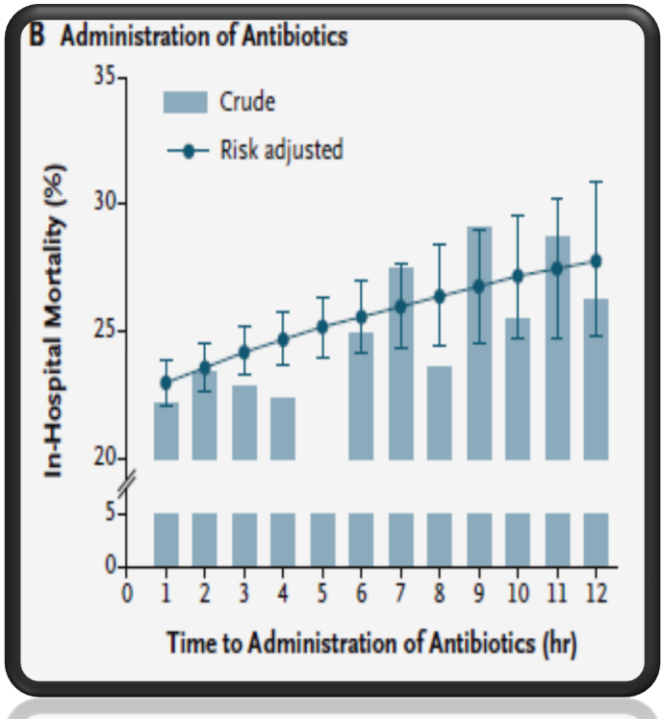
Snippets from the literature

Starting antibiotics within one hour in septic shock helps

(courtesy Dr Kalpesh Sukhwani)
NEJM May 21 2017

International clinical practice guidelines recommend the prompt identification of sepsis and treatment with broad-spectrum antibiotic agents and intravenous fluids. Some clinicians question the potential benefit of rapid treatment, citing the absence of data from randomized trials, the potential for adverse effects, and the challenging implementation of these efforts in environments where staff are often overworked. Using data from New York, where hospitals are required to implement protocols and report on the treatment of sepsis, we examined the association between the timing of treatment and risk-adjusted mortality. All the protocols were required to include a 3-hour bundle consisting of receipt of the following care within 3 hours: obtaining of a blood culture, measurement of the serum lactate level, and the administration of broad-spectrum antibiotics.





These findings support an association between time to treatment and outcome among patients with sepsis or septic shock treated in the emergency department. A longer time to completion of a 3-hour bundle of care for patients with sepsis and the administration of broad-spectrum antibiotics were each associated with higher risk-adjusted in-hospital mortality.

Treating Hepatitis C Can Reactivate Hepatitis B

Ann Intern Med 2017 Apr 25; [e-pub].

Investigators reviewed post-marketing reports provided to the US FDA of 29 patients with HCV/HBV co-infection who experienced HBV-R (resulting in 2 deaths and the need for one liver transplantation) after receiving a second-generation DAA for HCV infection between November 2013 and October 2016.

In these patients, mean time to HBV-R after starting DAA therapy was 53 days (range, 14–196 days). Clinical illness due to HBV-R occurred in 28%. The most common finding was an increase in HBV DNA levels.

Providers treating patients with HCV infection should be aware of the possibility of HBV-R and monitor for this event.

PPV-23 modestly effective for CAP in adults>65

Lancet ID Volume 17, No. 3, p313–321, March 2017

For this multicentre, prospective study, the investigators enrolled all individuals aged 65 years or older with community-onset pneumonia who visited four study hospitals in Japan between Sept 28, 2011, and Aug 23, 2014. *Serotype* -specific vaccine effectiveness was estimated using the test-negative design.2621 eligible patients visited the study hospitals, of whom 585 did not have sputum samples available and were excluded from our analysis. 419 (21%) of 2036 patients were positive for pneumococcal infection (232 by sputum culture, 317 by sputum PCR, 197 by urinary antigen test, and 14 by blood culture). 522 (26%) patients were judged to be vaccinated in the analyses. Effectiveness of PPV23 was 27·4% (95% CI 3·2 to 45·6) against all pneumococcal pneumonia, 33·5% (5·6 to 53·1) against PPV23 serotypes, and 2·0% (−78·9 to 46·3) against non-PPV23 serotypes. Although no significant differences between subgroups were seen, higher protection was noted in people younger than 75 years, women, and individuals with lobar pneumonia or health-care-associated pneumonia.

PPV23 showed low to moderate effectiveness of about 33% against vaccine serotype pneumococcal pneumonia in people aged 65 years or older. In comparison PCV-13 is about 45% effective. Current guidelines for adults >65 call for sequential vaccination with PCV-13 followed by PPSV-23 after one year.

Isoniazid resistant TB: better regimens needed

Lancet ID Volume 17, No. 2, p223–234, February 2017

The results of some reports have suggested that treatment of isoniazid-resistant tuberculosis with the recommended regimens of first-line drugs might be suboptimal. The authors updated a previous systematic review of treatment outcomes associated with use of first-line drugs in patients with tuberculosis resistant to isoniazid but not rifampicin. Treatment of isoniazid-resistant tuberculosis with the WHO standard regimen for new patients resulted in treatment failure, relapse, and acquired multidrug resistance in 11% (6–17), 10% (5–15) and 8% (3–13), respectively. For patients with drug-sensitive disease treated with the standard retreatment regimen the rates were 1% (0–2), 5% (4–7), and 0·3% (0–0·6).

Treatment of isoniazid-resistant tuberculosis with first-line drugs resulted in suboptimal outcomes, supporting the need for better regimens. Continuing ethambutol during the continuation phase for all patients is one option, till isoniazid sensitivity testing is back. Quinolones need further study in this situation.

Paradoxical Reactions in Meningitis due to *Mycobacterium Tuberculosis*

BMC Infect Dis 2016; 16:306.

Singh and colleagues prospectively examined the occurrence of PR in 141 patients undergoing treatment for tuberculous meningitis at a single institution in India. All but 13 of the total cohort of 141 patients were HIV negative, and all received dexamethasone as per TBM protocol. A PR (defined as worsening of preexisting lesions or appearance of new ones in patients who had initially improved and had received -

≥10 days of antituberculous therapy) occurred in 44 (31.2%), including 11 of 13 (84.6%) HIV-infected and 31 of 128 (24.2%) non-HIV-infected individuals. Of the 44 with a PR, 27 and 26 developed hydrocephalus and tuberculomas, respectively, while 12 developed optochiasmatic arachnoiditis and 4 suffered spinal arachnoiditis. Cerebrospinal fluid protein and/or cell count worsened in 41 (93.1%) patients.

This report is a reminder that PRs in tuberculosis are not limited to HIV-infected patients, in whom the PR is called immune reconstitution inflammatory syndrome. Management of PR usually involves administration of corticosteroids or, in cases occurring while corticosteroids are being administered, significant increase in their dosage. Additional approaches have included the use of tumor necrosis factor inhibitors and thalidomide.

You get Staph aureus mostly from your own nose, not from HCWs

(courtesy Dr Pratik Patil)

Lancet ID Volume 17, No. 2, p207–214, February 2017

In this longitudinal cohort study, the authors systematically sampled health-care workers, the environment, and patients over 14 months at the ICU and HDU of the Royal Sussex County Hospital, Brighton, England. Of 97 patient acquisitions of *S aureus* observed during the study, only 25 transmissions (ie, with pairs of isolates differing by no more than 40 single-nucleotide variants)—seven from health-care workers, two from the environment, and 16 from other patients—were identified.

The authors showed the limited role of the environment and health-care workers in transmission of *S aureus* to patients. Strategies based on elimination of nasal carriage represent an effective strategy to reduce the incidence of *S aureus* infections.

Guideline Watch

Surviving Sepsis Guideline Update

Intensive Care Med 2017 Jan 18; [e-pub].
(http://dx.doi.org/10.1007/s00134-017-4683-6)

IV antibiotics should be started within 1 hour of sepsis recognition (strong recommendation, moderate quality of evidence), and should include combination therapy (at least two classes of antibiotics to cover a known or suspected pathogen) for patients with septic shock. Combination therapy should not routinely be used for patients without shock.

Updated ACG Guideline for Treating Patients with *Helicobacter Pylori* Infection

Am J Gastroenterol 2017 Jan 10;

First-line treatments may include:

- Quadruple bismuth-based therapy for 10 to 14 days
- Concomitant (a proton-pump inhibitor plus three antibiotics) therapy for 10 to 14 days

Salvage therapy should avoid antibiotics previously taken and should be based on resistance information.

Answer to photo quiz

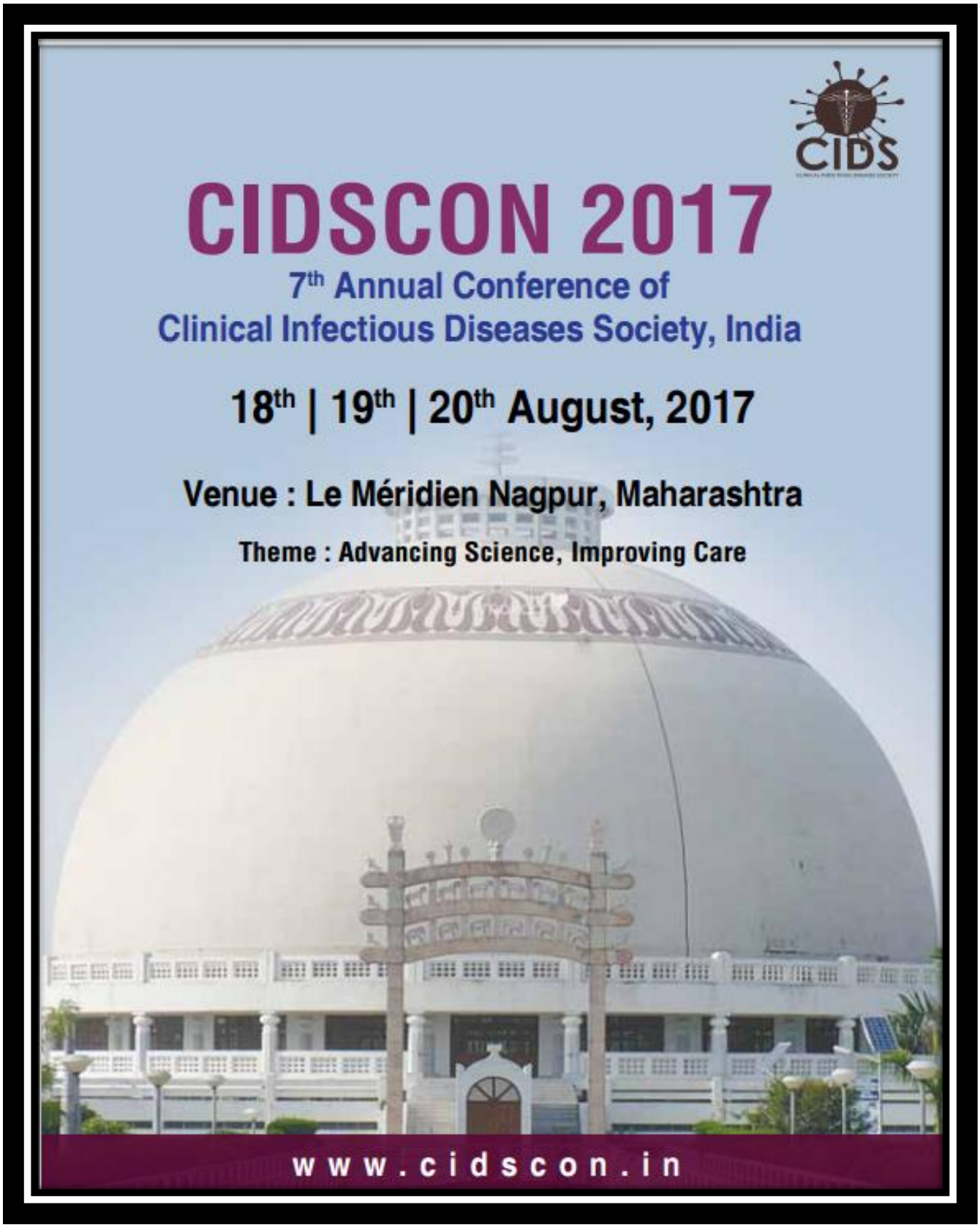
Cultures from Thialand grew *Mycobacterium haemophilum*

Mycobacterium haemophilum is a slow-growing, fastidious, iron-requiring non-tuberculous mycobacterium (NTM) that has uncommonly been documented as a cause of human infection. Infection appears to be acquired via environmental exposure although its natural habitat and mode of acquisition are unknown. It has primarily been implicated as a cause of ulcerating cutaneous or subcutaneous nodular skin lesions, particularly in immunocompromised patients, although infections at extracutaneous sites have also been described. Osteomyelitis, while rarely documented, appears to be an important complication of infection with

M. haemophilum in advanced HIV disease or bone marrow/solid organ transplant recipients.
M. haemophilum is difficult to grow in the laboratory and requires hemin-supplementation with low incubation temperature (30- 32°C) for its growth.

In view of interactions of clarithromycin with tacrolimus and rifabutin, the patient was started on azithromycin, rifabutin and levofloxacin. Mycobacterial culture at our center was negative.
Final diagnosis: Disseminated infection with *Mycobacterium haemophilum*

(case provided by Dr Neha Gupta)


CIDS
CIDSCON 2017
7th Annual Conference of
Clinical Infectious Diseases Society, India
18th | 19th | 20th August, 2017
Venue : Le Méridien Nagpur, Maharashtra
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