Editor's note

Dear colleagues Hope all of you have registered for CIDSCON and encouraged your juniors to send in abstracts. The conference website [www.cidscon.in](http://www.cidscon.in) has details. The image at the end of the newsletter can be used for publicity in your talks/ notice boards etc.

See you in Kochi!

Photoquiz

A 52/F was admitted with dull aching lower abdominal pain of 2 weeks duration without any systemic symptoms or vaginal discharge. An IUD contraceptive device had been inserted 5 years earlier. Clinical examination was unremarkable. CBC, LFTs, RFTs and urine routine exam were normal. USG abdomen was suggestive of bilateral adnexal mass. Tumor markers were negative.

CT abdomen and pelvis (image 1) showed 1) Complex solid cystic mass in bilateral adnexal region with multiple fluid pockets (contrast enhancing) 2) Diffuse swelling of appendix and small bowel loops which appear adherent to mass 3) Multiple enlarged lymph nodes in mesentery, RIF, bilateral iliac, para-aortic and aorto-caval region.

What is your diagnosis?
Acute encephalitis syndrome (Bihar)

The toll due to Acute encephalitis syndrome (AES) epidemic has reached 131 in Muzaffarpur district in Bihar. Sri Krishna Medical College and Hospital (SKMCH) handles the largest number of patients in the district. At least 700 patients, many of whom are below the age of 10, have been admitted for treatment at two hospitals in the district since the beginning of June. The disease usually occurs during the monsoon season and symptoms include high fever, vomiting and convulsions and sometimes coma.

The determination of the etiology or etiologies of AES has been confusing and elusive. With a decline in cases due to JEV in the last two decades, various etiological agents have been proposed as responsible for AES, including malnutrition, hypoglycemia, Reye syndrome-like disease, possible enterovirus infection from polluted water, heatstroke, lychee fruit consumption and scrub typhus.

Nipah Virus (Kerala)

Contributed by Dr Rohit Vashisht

A 23-year-old college student [in Kochi, Kerala] has been confirmed to be infected with the Nipah virus. The results of blood samples of the student, were tested at the National Institute of Virology (NIV) in Pune. He was managed at a private hospital in Kochi and is stable now. Over 300 suspects are also there but none of them have tested positive as of now after the index case.

Another fatal case in JIPMER, Pondicherry has tested negative, after Nipah was initially suspected.

On 19 May 2018, a Nipah virus disease (NiV) outbreak was reported from Kozhikode district of Kerala, India. This is the first NiV outbreak in South India. There have been 17 deaths and 18 confirmed cases. This was the third NiV outbreak known to have occurred in India; the two previous outbreaks occurred in the state of West Bengal in 2001 and 2007.

Nipah virus (NiV) is a member of the family Paramyxoviridae, genus Henipavirus. NiV was initially isolated in 1999 during an outbreak of encephalitis and respiratory illness among pig farmers in Malaysia and Singapore. Its name originated from Sungai Nipah, a Malaysian village. Fruit bats (commonly known as flying foxes) in the genus Pteropus, family Pteropodidae, are main reservoir hosts of NiV (1). It was also recognized in Bangladesh in 2001, and nearly annual outbreaks have occurred in that country since. The disease has also been identified periodically in eastern India. In both these countries, consumption of fruits or fruit products (such as raw date palm juice) contaminated with urine or saliva from infected fruit bats was the most likely source of infection.

The incubation period in humans ranged from 4 days to 2 months, with more than 90% at 2 weeks or less (2). Patients presented with fever, headache, dizziness, and vomiting, which developed into a picture of severe encephalitis. Neurological involvement is diverse and multifocal, including aseptic meningitis, diffuse encephalitis, and focal brainstem involvement. Cerebellar signs are relatively common. A study on 22 patients who survived NiV showed that almost a third had persistent neurologic and cognitive dysfunction. Cases in Bangladesh and India had higher rates of respiratory involvement, comprising half to two thirds of cases, with some of them developing acute respiratory distress syndrome.

Infections by NiV in humans and animals are confirmed by virus isolation, serologic tests and nucleic acid amplification tests like RT-PCR (3). There are currently no drugs or vaccines specific for Nipah virus infection. Intensive supportive care is recommended to treat severe respiratory and neurologic complications. The case fatality rate is estimated at 40% to 75% (4).

4. WHO fact sheet; May, 2018
**Diphtheria (Kerala)**

Diphtheria has surfaced with a 10 year old boy from Parassala who was admitted to SAT Hospital with suspected diphtheria or tonsillitis and tested positive for diphtheria. The boy, who was admitted to SAT on [22 May 2019], has recovered well without any complications and is due for discharge in a day or 2. This is the 2nd case of diphtheria in the district this year [2019], after a 21 year old college student from Kattakada tested positive for the disease in January [2019].

**Kyasnur Forest Disease (Karnataka)**

Despite precautionary and surveillance measures by the Department of Health and Family Welfare in the district [Shivamogga] against Kyasanur Forest disease (KFD), also known as monkey fever, there is no sign of the outbreak subsiding in Malnad region, and it is extending its reach to new areas. On average, 4 new positive cases are reported at the primary health centre every week. Since December 2018, 15 persons have died owing to KFD in the district, and of these, 9 deaths have been reported since [1 Mar 2019]. A total number of 306 persons have tested positive for KFD in the district this season, and 11 of these are still being treated at private hospitals in Udupi district as in-patients.

The department has vaccinated 1.4 lakh [140 000] persons in the district against the disease this season so far. [A], [P] and [S] (who had died due to KFD in March 2019) and [K] (who died on 1 May 2019) were administered primary and booster doses of the vaccine.

Deputy Director of Viral Diagnostic Laboratory (VDL), an important arm of the department in tackling KFD, quoted that the primary dose of the vaccine will offer 35% immunity against the disease and the booster dose, 65%. The immunity level in a vaccinated person would be enhanced to 87% after the 3rd dose. The chances of getting infected with KFD virus will be less after the 3rd dose, he said.

**JOURNAL REVIEW**

**Antibiotics for operative vaginal delivery**


Contributed by Dr Abi Manesh

While instrumental delivery is a risk factor for maternal infection, most guidelines do not recommend antibiotics in this setting. The authors aimed to investigate whether antibiotic prophylaxis prevented maternal infection after operative vaginal birth. In a blinded, randomized controlled trial involving 3427 patients over 2 year period, women (aged ≥16 years) were allocated to receive a single dose of intravenous amoxicillin and clavulanic acid or placebo (saline) following operative vaginal birth at 36 weeks gestation or later. Significantly fewer women allocated to amoxicillin and clavulanic acid had a confirmed or suspected infection (180 [11%] of 1619) than women allocated to placebo (306 [19%] of 1606; risk ratio 0.58, 95% CI 0.49–0.69; p<0.0001).

This important study underlines the need of single dose antibiotic with good coverage against vaginal/peri-anal flora for protection against maternal infection. Whether the antibiotic choice would remain the same in areas with high baseline resistance remains to be studied.
Undetectable = Untransmissable for all partners

While the evidence for Undetectable = Untransmissable is strong for heterosexual contact, similar data for MSM population was lacking. The specific concerns in this population include higher risk of transmission during anal sex and delayed viral clearance from rectal tissue while on ART. Between Sept 15, 2010, and July 31, 2017, 972 gay couples were enrolled, of which 782 provided 1593 eligible couple-years of follow-up with a median follow-up of 2·0 years (IQR 1·1–3·5). During eligible couple-years of follow-up, couples reported condomless anal sex a total of 76,088 times. 288 (37%) of 777 HIV-negative men reported condomless sex with other partners. 15 new HIV infections occurred during eligible couple-years of follow-up, but none were phylogenetically linked within-couple transmissions, resulting in an HIV transmission rate of zero (upper 95% CI 0·23 per 100 couple-years of follow-up).

U = U will be the most effective strategy to control HIV epidemic in most populations in the absence of a good vaccine.

Study in SCARLET!

Does administration of a recombinant human soluble thrombomodulin reduce mortality of critically ill patients with sepsis-associated coagulopathy? Despite the previous failed attempts in the area of controlling coagulatory abnormalities in sepsis, recombinant human soluble thrombomodulin (rhsTM) was used as an intervention in view of its capacity to bind circulating thrombin molecules and serve as an activation complex to convert protein C to activated protein C. In addition, rhsTM inhibits inflammation and organ injury caused by damage-associated molecular patterns. The SCARLET trial was a randomized, double-blind, placebo-controlled, phase 3 study in which 816 patients with sepsis-associated coagulopathy were randomized and treated with an intravenous bolus of or matching placebo for 6 days. The primary end point, the 28-day all-cause mortality rate was not statistically significantly different between the thrombomodulin group and the placebo group (106 of 395 patients [26.8%] vs 119 of 405 patients [29.4%], respectively; \( P = .32 \)).

Yet another large RCT which did not show a mortality difference in the area of sepsis.

More flu jabs for the elderly?

Many of the tropical regions have year around transmission of influenza. The protective efficacy of the annual flu vaccine declines after the first six months in the elderly. The authors explored the antibody production with a biannual flu vaccine strategy among elderly individuals in areas with year around flu transmission. Tropical Influenza Control Strategies (TROPICS1) was a single-center, 1:1 randomized, observer-blinded, superiority study in 200 community-resident adults aged ≥65 years. The primary outcome, proportion of participants with an HI titer ≥1:40 against A/H1N1 at 7th month increased by 21.4% (95% confidence interval [CI] 8.6–33.4) in the semiannual vaccination group. The secondary outcome, significantly lower incidence of ILI in the 6 months after the second vaccination (relative vaccine effectiveness 57.1%, 95% CI 0.6–81.5) was also noted.

If you have year around transmission of flu or your elderly patient has received the flu shot 6 months prior to the flu season, it may be worthwhile giving one more.
Answer to the photoquiz

The patient underwent surgical drainage of adnexal mass, tissue removed was negative on stains and culture. HPE (figure 2) was consistent with actinomycosis.

(A) Centrally located actinomyces colony within the abscess. There are seen slender basophilic filamentous bacteria with rosette like configuration. At the periphery, there are eosinophilic club like structures (Splendore-Hoeppli phenomenon). Special stains: (B) PAS positive pink organisms (C) Gomori Methenamine Silver: Slender brownish black organisms

The patient received 7 days of ceftriaxone after surgical drainage, followed by oral amoxicillin. On follow up at day 70, she was asymptomatic with 4 kg weight gain and follow-up CT Pelvis was normal.

Actinomycosis should be suspected in female patients with pelvic disease who have been using an IUCD. Traditionally it is treated for 6 to 12 months but treatment duration can be shortened if adequate source reduction is achieved.

**Final diagnosis:** Pelvic actinomycosis associated with IUCD

*Case contributed by Dr Kalpesh Sukhwani*
CIDSCON 2019
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Theme: Simplifying the evidence- the next step for progress in Infectious Diseases

Venue: Grand Hyatt Kochi Bolgatty, Kerala

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