ISCCM™

Newsletter

SCCM Delhi & NCR

Volume : 1 | Issue : 1 | July 2014

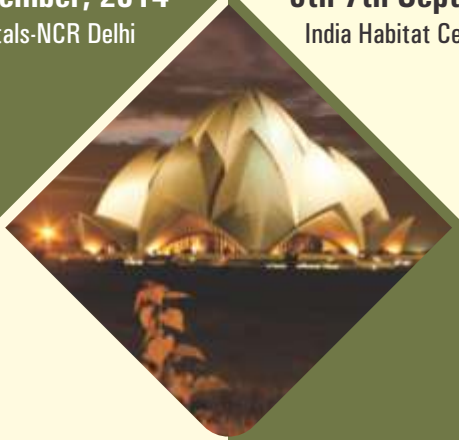
ISCCM

DCCS 2014

Delhi Critical Care Symposium

Pre-Conference Workshops
4th-5th September, 2014
Various Hospitals-NCR Delhi

Main Conference
6th-7th September, 2014
India Habitat Centre, New Delhi



REGISTRATION DETAILS FOR WORKSHOP & CONFERENCE ON BACK COVER

CONTENTS

International Faculty

Ravi Kumar UK	**Mahesh Nirmalan** UK	**Michael O'Dwyer** UK
Vishwajit Verma UK	**Brian Marsh** Ireland	**Richard Harper** University of Oregon
Alex Nirhhaus	**Hisataka Shoji**	**Coralie Coele**

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YP Singh
Yash Javeri
Yatin Mehta

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DCCS 2014

Delhi Critical Care Symposium

HIGHLIGHTS

- Pre-Conference Workshops
- Hard Talk-PRO/CON Debate
- Plenary Sessions
- Grand Rounds
- Acute Care Medicine Session
- Case based Sessions
- Buzzer Rounds for Trainees
- Quiz Post Graduates & Fellows
- DCCS Oration

ABSTRACTS

Last Date 30 July 2014

TARGET AUDIENCE

- Critical Care Physicians & Trainees
- Emergency Physicians
- Critical Care Nurses
- Post Graduates Students

From the Editor's desk.....

Dear Colleagues,

This is the first issue of the official Newsletter of the Society of Critical care Medicine (Delhi & NCR) and I wish to thank everyone for their valuable support and contribution towards its publication.

While the need for a mouthpiece for effective communication between the society and its members was a long felt necessity, the same was not implemented earlier due to various shortcomings.

However, the present Executive Committee conceived and adopted the unanimous decision to publish a newsletter once in every three months to update the society members about the various activities of the Society. It would also function to communicate important informations related to the critical care medicine for the benefit of its members.

As evident that the monthly meetings of SCCM (Delhi & NCR) provide an opportunity for interaction among the members, but the members who miss out the monthly meetings for some reasons can find the abstracts of the scientific presentations in the newsletter!

The present issue includes an informative review on the "Neurological examination of critically ill patients" and a recent update on "Intravenous phosphates" both of which are interesting subjects for the practising intensivists.

It also features regular sections on quiz, events and job opportunities.

We would welcome your suggestions and look forward for your valuable feedbacks to make the forthcoming issues more interesting!

As you know, the preparations for DCCS 2014 are in full swing. Those who are yet to get registered for the conference and/or workshop are requested to do the same. The theme for DCCS 2014 is "Controversies in Critical Care" and will feature various attractive sessions including Hard Talks, Debates, Quiz, posters etc.

Happy Reading!
Long live SCCM (Delhi & NCR)!!
Dr. Anirban Hom Choudhuri (In-charge, Editorial Team)
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EVALUATING THE NEUROLOGICAL STATUS IN CRITICALLY ILL PATIENT

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Sir Ganga Ram, Hospital, New Delhi

Evaluating the Neurological Status in Critically Ill Patient

Assessing the neurologic status of unconscious or comatose patients can be a challenge in the critically ill because of their limited ability to cooperate during examination. Cursory assessment and attribution of problems to critical illness itself or to some "multifactorial" insult must be avoided and a thorough neurological examination should be performed in all patients. Before examination, sedation and muscle relaxants should be withdrawn if possible, allowing a sufficient time (depending upon half life and its prolongation by altered metabolism) to "lighten" the patient for examination.

Types of Neurological Examination

The type of neurological examination depends on whether the patient can follow commands. If the patient is able to follow commands, the examination can be more comprehensive and should include evaluation of-

level of consciousness (LOC)

pupils

cranial nerves I through XII

motor response

sensory system

cerebellar signs

If the patient is unable to follow commands, the assessment may be limited to only the eye opening, pupillary size, motor response, and some cranial nerve examination. Despite the relative brevity of the examination, the amount of information gained could be significant.

A very important prerequisite: evaluate the ABCs

The topmost priority should be given to assessment of ABCs—airway, breathing, and circulation. Firstly, check the patency of the airway and the patient's ability to maintain the airway.

Next, check the respiration. The questions that should come to our mind are: Is the respiration adequate? Are the vital signs stable? Is the blood pressure adequate for cerebral perfusion? One should be aware that current or progressive injury to the brain and brain stem may make vital signs unstable,

but this situation can be complex. Although unstable vital signs can impair neurologic response and on the other hand, brain injury itself may cause unstable vital signs. Respiration can be affected in coma. This can be a generalised effect relating to the level of consciousness, be preferentially affected by certain drugs or metabolic states.

Appropriate assessment of the patient's peak neurologic status should ideally be done after evaluating the oxygenation and circulation status. The blood pressure, temperature, heart rate, and heart rhythm should be normal. Be aware that a temporary decline in neurologic status caused by insufficient oxygenation or circulation still represents a neurologic change—and leads to permanent neurologic loss unless the underlying problem is corrected.

Neurological Assessment in the ICU: Follow these simple steps

1. Determine the level of consciousness (LOC)

Evaluate the Glasgow Coma Scale (GCS)/ AVPU score.

Look for evidence of seizures (non-convulsive seizures should be considered in patients with unexplained decrease in level of consciousness or failure to awaken, especially after TBI or stroke).

2. Assess the mental status/higher functions:

Talk to the patient and avoid questions with single word yes/no answers.

– Evaluate orientation, attention, coherence, comprehension, and memory/recall

– Screen for delirium (CAM-ICU score)

– Identify symptoms such as headache, nausea or visual problems

3. Pupillary Examination

Loss of reactivity to direct and consensual light with pupillary dilation suggests compression of CN III (top of brainstem). Fixed and pinpoint pupils suggest lower brainstem dysfunction in the area of the pons.

Sympathetic control of the pupil is located in the pons; pons damage is associated with pinpoint non-reactive pupils. Vertebral vessels supply pons; stroke can occur secondary to vertebral dissection due to head or neck trauma. Loss of entire brainstem (including CN III and pons) causes midsize and fixed pupils.

4. Assess motor function

i. Note the appearance or bulk of the muscle (wasted, highly developed, normal)

ii. Feel the tone of the muscle (flaccid, clonic, normal)

iii. Test the power of the muscle group (MRC score)

Two findings on exam strongly point to a structural lesion: consistent asymmetry between right and left sided responses, and abnormal reflexes that point to specific areas within the brain stem like abnormal posture. Decerebrate rigidity refers to bilateral upper and lower limb extensor posture, usually the consequence of bilateral mid-brain or pontine lesions. Decorticate posture refers to bilateral flexion of the upper limbs and extension of the lower limbs, usually the consequence of an upper brain stem lesion. Unilateral decerebrate or decorticate postures can be seen and are an indication of a unilateral lesion. This asymmetry has some localising value.

5. Assess Sensory Function

The patient must be conscious and obeying commands for a full sensory neurological examination, a prerequisite rarely fulfilled in critically ill patients. Tests should be performed in all extremities, as well as on the face and trunk, with the patient's eyes closed or covered. Response to pin, light tough, temperature and vibration should be tested.

The pattern of sensory loss can provide important information that helps localize lesions to particular nerves, nerve roots, and regions of the spinal cord, brainstem, thalamus, or cortex. It forms an important part of spinal cord testing for at risk patients (trauma with uncleared C Spine, ASCI, thoracic aneurysm).

6. Assess cerebellar function

Coordination and gait must be evaluated to assess cerebellar function. The prerequisite here is again that the patient must be able to obey commands.

7. Brainstem Testing

This is especially pertaining to an unconscious patient. The following brainstem reflexes should be assessed.

a. Light reflex (CN II [Optic] and III [Oculomotor])

b. Corneal reflex (V1 branch of CN V [Trigeminal] and CN VII [Facial])

c. Doll's Eyes or Oculocephalic reflex (CN III [Oculomotor], VI [Abducens] and VIII [Acoustic] and pons)

d. Cold Caloric or Oculovestibular reflex (CN III [Oculomotor], VI [Abducens] & VIII [Auditory] and pons)

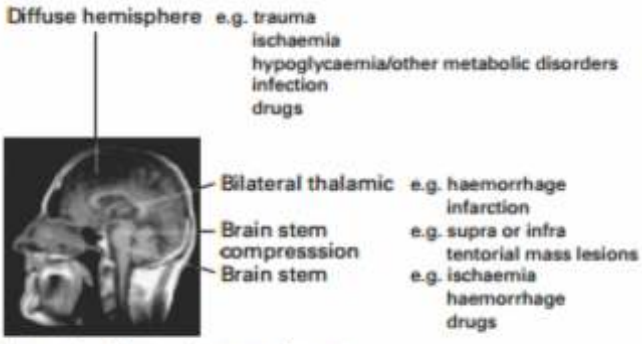

Figure 1 Sites and causes of coma

Table 1. Differential Diagnosis in a patient with Coma

Bilateral hemisphere damage/dysfunction
– symmetrical signs (tone and flexor or extensor response to pain)
– may have fits or myoclonus
– normal brain stem reflexes
– normal oculocephalic response (OCR): normal calorics
– normal pupils
Supratentorial mass lesion with secondary brain stem compression
– ipsilateral third nerve palsy
– contralateral hemiplegia
Brain stem lesion
– early eye movement disorder: abnormal OCR or calorics
– asymmetrical motor responses
Toxic/metabolic
– normal pupils: single most important criterion (except opiate poisoning)
– ocular motility: rove randomly in mild coma and come to rest in primary position with deepening coma
– absent OCR and calorics
– decorticate and decerebrate rigidity or flaccidity
– multifocal myoclonus

References

1. J. Neurol. Neurosurg. Psychiatry 2001; 71:13-7. Neurological assessment of coma. David E Bateman

SCIENTIFIC ABSTRACTS FROM THE MONTHLY MEETING HELD ON 24TH JANUARY, 2014

Host: Department of Critical Care Medicine, Fortis Escorts Hospital, Faridabad

OSBORN WAVES IN A PATIENT OF TRAUMATIC BRAIN INJURY (TBI)

Aditya Lyall

Takotsubo cardiomyopathy is a recently recognised, reversible cardiomyopathy, with presenting signs and symptoms which closely mimics an acute coronary event. Although it was classically associated with female gender and emotional stress, Takotsubo cardiomyopathy is known to occur in male gender with stress related to the disease itself.

Early recognisation and diagnosis is important in view of the huge monetary burden associated with admission to a cardiac unit, and dictates the future treatment plan for the patient, avoiding unnecessary medication and therapies. We present a case of Takotsubo cardiomyopathy in a patient of traumatic brain injury (old) with pneumonia , who had Osborn waves as an unusual preceding ECG changes, which reverted over the next few days.

AN UNUSUAL PRESENTATION OF SHOCK

Himanshu Dewan

A patient can present in circulatory shock due to various pathophysiologic mechanism. Though sepsis and cardiac failure remain most common of the aetiologies other causes especially obstructive should be explored when presentation is unusual or sudden in a young person.

We report a case of a young healthy female who presented with sudden onset severe refractory shock. History, examination and initial investigations including electrocardiogram could not point to a hypovolemic, septic, cardiac, anaphylactic or toxic cause. A bedside echocardiography performed by the attending intensivist revealed a large left atrial myxoma causing mitral valve obstruction.

Surgical intervention was refused by cardiovascular surgery on grounds of extremely poor hemodynamics and patient succumbed to her illness within a few hours of admission.

90 percent of atrial myxomas, the most common primary tumors of heart occur in left atrial cavity.

Besides causing circulatory failure and sudden cardiac death or mimicking severe mitral stenosis they can present with pulmonary edema, embolic or systemic manifestations. Transesophageal echocardiography remains the investigation of choice and surgical excision remains the treatment of choice.

HEPATOPULMONARY SYNDROME IN UNEXPLAINED CYANOSIS IN 11 YEARS MALE

VK Aggarwal

The Hepato-pulmonary syndrome is a rare disorder characterized by a defect in arterial oxygenation induced by pulmonary vascular dilatation in the setting of liver disease. The vascular component includes diffuse or localized dilated pulmonary capillaries and, less commonly, pleural and pulmonary arterio-venous communications leading to shunting. Contrast-enhanced trans-thoracic echocardiography with saline is the most practical method to detect pulmonary vascular dilatation. We are reporting a case of 11 years male from Iraq who presented to us with progressively increasing breathlessness, central cyanosis, extreme weakness and Weight loss in last 6-7 months. His examination revealed grade II clubbing with severe hypoxia on room air. His A-a gradient was 71.7 mmHg. 2D-ECHO was normal as well as CT Pulmonary angiography. Contrast enhanced trans- thoracic ECHO revealed contrast in left sided chambers after 3 beats signifies pulmonary vascular dilation. Tri-phasic CT scan revealed hepatic cirrhosis with splenomegaly, dilated splenoportal axis and porto-systemic colleterals. Workup for cause of cirrhosis of liver revealed positive P-ANCA with possibility of primary sclerosing cholangitis. Only definitive treatment for Hepato-pulmonary syndrome is Orthotopic liver transplantation (OLT).

DRUG UPDATE

Prashant Nasa

Senior Consultant & Co-ordinator, Critical Care, Action Balaji Hospital, New Delhi

Intravenous Phosphate

Intravenous (IV) Phosphate is a recently introduced drug in the Indian market for correction of severe hypophosphatemia in critically ill patients.

Indications

This is used for correction of phosphorous deficiency in patients with symptomatic hypophosphatemia and includes:

1. Patients on continuous renal replacement therapy (CRRT)
2. Patients with Diabetic Ketoacidosis
3. Patients on total parenteral nutrition(TPN)
4. Patients with short gut syndrome
5. Malnourished patients

Contraindications

a) Hyperkalaemia: Since each mmole of phosphate contains about 1.3 mEq of potassium, it is necessary to calculate the concomitant amount of potassium that is being administered

b) Metabolic alkalosis

c) Renal failure not on Haemodialysis/CRRT

d) Hypocalcemia: High concentrations of phosphorus may cause hypocalcemia and hypocalcemic tetany; monitor calcium levels

e) Hypomagnesemia

Composition Each ml contains:

Monobasic Potassium Phosphate USPNF (anhydrous)	224 mg
Dibasic Potassium Phosphate USP (anhydrous)	236mg
Water for Injections I.P	q.s.

[Each ml provides 93mg (3mM) of Phosphorus and 170mg (4.4mEq) of Potassium]

Administration

It is administered IV only after dilution in a larger volume of fluid. It should be administered slowly over 4-6 hr with close monitoring of ECG and serum levels.

For Dilution: D10% in 0.9% NaCl; D2.5% in Half-strength LR; D5% in LR; Dextrose 5% in Ringer's; Lactated Ringer's; Ringer's injection

Dosing: Phosphorous serum level <0.5 mg/dL: 0.5 mmol/kg IV infused over 4-6 hr

Phosphorous serum level 0.5-1 mg/dL: 0.25 mmol/kg IV infused over 4-6 hr

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1. Chua HR, Baldwin I, Ho L, Collins A, Allsep H, Bellomo R. Biochemical effects of phosphate-containing replacement fluid for continuous venovenous hemofiltration. Blood Purif. 2012; 34: 306-12.
2. Geerse DA, Bindels AJ, Kuiper MA, Roos AN, Spronk PE, Schultz MJ. Treatment of hypophosphatemia in the intensive care unit: a review. Crit Care. 2010; 14:R147.
3. Assadi F. Hypophosphatemia: an evidence-based problem-solving approach to clinical cases. Iran J Kidney Dis. 2010; 4:195-201

UPCOMING EVENTS

1. DCCS (Delhi Critical Care Symposium) 2014; Indian Habitat Centre, 4th-7th September, 2014
   Contact- dryashjaveri@yahoo.com; isccmdelhichapter@gmail.com

JOB OPPORTUNITIES

Position: Junior/Attending Consultant (Critical Care Medicine)

Hospital: Action Balaji Medical Institute

Salary: Commensurate with experience

Contact: Prashant Nasa (dr.prashantnasa@hotmail.com ; 9818214931)

QUIZ

Anirban Hom Choudhuri, Associate Professor & In-charge (ICU), GB Pant Hospital, New Delhi

1. A widely-used germ-killing ingredient found in soaps, deodorants and even toothpaste has been recently banned in some state of US because of concern about disruption of hormones critical for reproduction and development. Name the substance.
2. Which variant of Duchenne muscular dystrophy is caused by the production of truncated but partially functional form of dystrophin and is found to affect only boys (with extremely rare exceptions)?
3. What is the name of the surgically created arterio- venous fistula created in the forearm as vascular access for haemodialysis?
4. How much reduction in the half life of carbon monoxide occurs following hyperbaric oxygen treatment for carbon monoxide poisoning?
5. A mixture called the common black draught, was a standard cure for constipation in early constrained to eat rock-hard salted beef and pork. Even President Lincoln used it regularly for constipation. What toxicity did it cause?
6. In 1951, Churg and Strauss noticed in a series of 13 patients with necrotizing vasculitis (previously diagnosed as "periarteritis nodosa"), 3 features which distinguished them from other patients with periarteritis nodosa. Two of them were necrotizing vasculitis and tissue eosinophilia. What was the third?
7. What is the name of small non tender, erythematous or haemorrhagic macular or nodular lesions on the palms or soles that are indicative of infective endocarditis?
8. The UK NHS started this vaccination campaign for all people aged between 70 and 79 in 2013 but later changed their policy and vaccinated only those elderly people who were either 70 or 79 year old as on September 1, 2013. Which vaccine are we talking about?
9. Which US public health institute was immensely inspired by Rockfeller Foundation and set up post World War II to control malaria in war endemic areas?
10. The Rod of Asclepius seen as a serpent-entwined rod wielded by the Greek god Asclepius, a deity associated with healing and medicine is the logo of which journal?

Answers Below

DID YOU KNOW?

The American Diabetes Association's rule of 15 for treating low blood glucose and the number of jelly beans it takes to equal 15 grams of carbohydrate for a specific brand of jelly bean.

If the blood glucose is 70 mg/dl, we should use the rule of 15 to treat hypoglycaemia.

Treat with 15 grams of carbohydrate

Check blood glucose in 15 minutes

If the blood glucose is still 70mg/dl, give another 15 grams of carbohydrate and re-check blood glucose in 15 minutes. The step should be repeated till blood glucose reaches the normal range.

These items contain 15 grams of carbohydrate:

Glucose tablets (3 five-gram tablets or 4 gram tablets)

4 ounces fruit juice

4 ounces sugar sweetened soda pop

5 Life Savers

Don't use sugar free jelly beans to treat low blood glucose.

(Anirban Hom Choudhuri)

QUIZ ANSWERS

1. Ticlosan
2. Becker muscular dystrophy
3. Cimino Brescia fistula
4. 1/3rd ; 23 minutes
5. Mercury
6. Extravascular granuloma
7. Janeway lesions
8. Herpes zoster
9. CDC; Centre for Disease control & prevention
10. NEJM; New England Journal of Medicine

ISCCM

DCCS 2014

Delhi Critical Care Symposium

Registration Fee Details

Category	Till May 31st, 2014	Till Aug. 31st, 2014	31st Aug. Onwards
ISCCM Members	3,000 INR	4,000 INR	5,000 INR
ISCCM Non Member	4,000 INR	5,000 INR	6,000 INR
Nurses/Physiotherapist/ Paramedic	2,000 INR	2,500 INR	3,000 INR
Accompanying Person	2,000 INR	2,500 INR	3,000 INR
Foreign Delegate	150 USD	175 USD	200 USD
Accompanying person Foreign*	75 USD	100 USD	125 USD

Workshop Fee Details

S. No.	Workshops	Dates and Venues	Fee
1	**Advance Sepsis Management Course** Dr Omender Singh / Dr Yash Javeri / Dr Suneel Kumar Garg	**5th September, 2014** (Max Superspeciality Hospital, Saket)	**2000**
2	**Basic Assessment in Support and Intensive Care** Dr Prashant Nasa / Dr Deven Juneja	**4th & 5th September, 2014** (Sri Balaji Action Medical Institute)	**3000**
3	**Cardiac Critical Care** Dr Yatin Mehta / Dr Abhinav Gupta / Dr Jeetendra Sharma	**4th & 5th September, 2014** (Medanta-The Medicity, Gurgaon)	**3000**
4	**Fellowship Preparatory Course** Dr Prakash Shastri / Dr Saurabh Taneja	**4th & 5th September, 2014** (Sir Ganga Ram Hospital, New Delhi)	**25000**
5	**Fluid, electrolytes and Renal replacement therapy** Dr Supradip Ghosh / Dr Anirban H Choudhary Dr Ranajit Chaterji	**4th Spetember, 2014** (India Habitat Centre, New Delhi)	**2000**
6	**Hemodynamics Monitoring & Echocardiography in ICU** Dr Rajesh Chawla	**4th & 5th September, 2014** (Apollo Hospital, New Delhi)	**3000**
7	**Mechanical Ventilation** Dr Rajesh Pande / Dr Manoj Goel	**4th & 5th September, 2014** (BLK Hospital, New Delhi)	**3000**

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