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A Newsletter on

CLINICAL PHARMA PRACTICE

An update on Clinical Research and Drug Information



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HUNTINGTON'S DISEASE

Huntington's disease is a neurodegenerative disorder that causes the progressive breakdown of nerve cells in the brain especially damage in BASAL GANGLIA. It has a broad impact on a person's functional abilities and usually results in movement, thinking (cognitive) and psychiatric disorders.

Most people with Huntington's disease develop signs and symptoms in their 30s or 40s, but the onset of disease may be earlier or later in life. When disease onset begins before age 20, the condition is called juvenile Huntington's disease.

ETIOLOGY

- Loss of cell bodies of GABA- secreting neurons in the caudate nucleus and putamen and acetylcholine - secreting neurons in many parts of the brain.
- Inherited defect in a single gene.

SIGNS & SYMPTOMS

Depression
Anxiety
Irritability
Trouble swallowing
Slow eye movements
Involuntary movements
Episodic anger.

5 - STAGES

Preclinical
Early stage
Middle
Late stage
End of life.

DIAGNOSIS

CT scan (Computer Tomography)
MRI (Magnetic Resonance Imaging)
Genetic testing in pregnancy

TREATMENT

Presently there is no successful or target therapy available because of unknown pathophysiology.

Drugs used for Huntington's Disease

- Use of Neuroleptic drugs (Tetrabenazine) to reduce choreic movements.
- Anti-Psychotic (Olanzapine or Sulpiride, Haloperidol, Chlorpromazine) to reduce psychiatric disturbances.
- Benzodiazepines (Clonazepam) to maintain muscle tonicity neuronal signalling centrally.

Other therapy includes

NMDA receptor antagonist - Memantine,
Gabapentin,
Ifenprodil
Transglutaminase inhibitor - Cysteamine
Protein aggregate inhibitor - Riluzole.

CASE STUDY ON PYOGENIC MENINGITIS

Pyogenic Meningitis is a life - threatening disease which affects meninges by causing inflammation. There are 3 bacteria's which mainly cause bacterial meningitis, that is *Haemophilus influenza*, *Streptococcus pneumoniae* and *Neisseria meningitidis*.

CASE DESCRIPTION

A 20yrs old female patient got admitted in the ICU with the history of fever, headache, vomiting and altered sensorium for past 4 days. Vital Signs shows BP (100/60 mmHg), PR (86 bts/min), RR (20 brs/min) and Temperature (99.2° F). Laboratory examination was found to have slightly decreased RBC, HCT, blood urea, serum creatinine, serum sodium, serum potassium, serum chloride and WBC was increased. MRI of Brain (plain and contrast) showed Subtle leptomenigeal enhancement seen along tentorial surface and parieto temporal regions lightly meningitis – needs medical correlation, MR Angiography of circle of Willis shows patent major branches. Culture report shows Gram stain – *Neisseria meningitidis*. The organism had disseminated to the blood. Finally, the patient was diagnosed with Pyogenic Meningitis.

The patient was treated with the following medications and was given on all days of admission.

Inj. Vancomycin 1g IV BD, to treat serious infections.

Inj. Ceftriaxone 2g IV BD, to treat infections caused by bacteria.

Tab. Pantoprazole 40mg PO OD, it reduces the amount of acid secreted in stomach.

Tab. Paracetamol + Domperidone PO SOS, was given on first two days of admission and it is used to treat fever and vomiting, it was stopped on 3rd day and was changed into Paracetamol 650mg and Ondansetron 4mg and thereby symptoms reduced.

The patient was discharged after 10 days. The discharge medication was

Inj. Vancomycin 1g IV BD was given for 2 days.

Tab. Pantoprazole 40mg PO OD given for 7 days.

Cap. Nurokind Gold, was given for 7 days and it is used for the treatment of vitamin and mineral deficiencies.

CONCLUSION

As *Neisseria meningitidis* is emerging as the highest causative organism among other affecting bacilli, good Clinical result for *Neisseria meningitidis* is based on early diagnosis and initiation of effective treatment with antibiotics.

QUIZ

ARUNA S (Pharm. D Intern)

1. A 33-year-old woman who is 20 weeks pregnant with a porcine heart valve is at risk for thromboembolism. Which of the following is the best agent to use in this situation?

- A) Heparin
- B) Streptokinase
- C) TED stockings
- D) Warfarin sodium

2. Methanol causes blindness due to its

- A) Hypersensitivity reactions
- B) Conjugated products
- C) Idiosyncratic reaction
- D) Oxidative products

4. Antiemetic used to prevent aspiration in emergency surgery

- A) Ondansetron
- B) Promethazine
- C) Metoclopramide
- D) Ranitidine

3. Recent studies into the pathogenesis of halothane induced malignant hyperthermia indicate which of the following as the likely implicating cause?

- A) Drug toxicity
- B) Myoplasmic sodium defect
- C) Excitation – contraction coupling defect
- D) Neural overmodulation

5. Which antiepileptic drug in therapeutic doses causes least sedation?

- A) Primidone
- B) Clonazepam
- C) Phenytoin
- D) Phenobarbitone

RECENTLY APPROVED DRUGS BY FDA

SNo	DRUG NAME	DOSE	DOSAGE	INDICATION	APPROVED ON
1.	Verquvo (Vericiguat)	2.5mg, 5mg, 10mg	Tablet	Chronic heart failure	19/01/2021
2.	Lupkynis (Voclosporin)	7.9mg	Capsule	Lupus nephritis	22/01/2021
3.	Tepmetko(Tepotinib hydrochloride)	EQ 225mg base	Tablet	Non – small cell lung cancer	03/02/2021
4.	Amondys 45(Casimersen)	100mg/2ml(50mg/ml)	Solution; Intravenous	Duchenne muscular dystrophy	25/02/2021
5.	Zegalogue (autoinjector) (Dasiglucagon hydrochloride)	EQ 0.6mg base/0.6ml (EQ 0.6mg base/0.6ml)	Solution; Subcutaneous	Severe hypoglycemia	22/03/2021
6.	Qelbree (Viloxazine hydrochloride)	EQ 100mg, 150mg, 200mg base	Capsule	Attentiondeficit hyperactivity disorder	02/04/2021

NEW DRUG PROFILE

TRILACICLIB DIHYDROCHLORIDE

CABOTEGRAVIR AND RILPIVIRINE

Generic name	: Trilaciclib dihydrochloride
Drug class	: Cyclin – dependent kinase (CDK) inhibitor
Dosage form & strength	: Powder; Intravenous; EQ 300mg base/vial
Indication	: To mitigate chemotherapy – induced myelosuppression in adult patients with small cell lung cancer.
MOA	: Trilaciclib is a transient and competitive inhibitor of cyclin – dependent kinases 4 & 6 (CDK 4/6). The drug delivers a myeloprotective therapy against chemotherapy – induced bone marrow suppression by inhibiting CDK 4/6 that regulates cell cycle.
ADR	: Respiratory failure, hemorrhage and thrombosi in >3 % of patients. Fatigue, hypocalcemia, hypokalemia, hypophosphatemia, aspartate aminotransferase increased, headache & pneumonia in ≥ 10% of patients.
Storage	: Dry , dark & at 0 – 4° C for short term (days to weeks) or 20° C for long term (months to years)
Drug approved on	: 12/ 02/ 2021

Generic name	: Cabotegravir & Rilpivirine
Drug class	: Non – nucleoside reverse transcriptase inhibitors (NNRTIs)
Dosage form & strength	: 400mg / 2ml (200mg / ml); 600mg /2ml (300mg / ml); 600mg/3ml (200mg/ml); 900mg/3ml (300mg/ml); Suspension, extended release; Intramuscular
Indication	: To treat HIV
MOA	: Acts as an integrase strand transfer inhibitor It blocks HIV integrase by attaching to the active integrase site and inhibiting the retroviral deoxyribonucleic acid (DNA) integration stage, which is necessary for the HIV replication cycle.
ADR	: Allergic and post – injection reactions, an increase of liver enzymes & depression.
Storage	: 2 - 8° C (36 – 46° F)
Drug approved on	: 21 / 01 / 2021

DEPARTMENT ACTIVITIES

INTERNATIONAL WOMEN'S DAY CELEBRATION



Pharm. D Interns observed International Women's Day on March 8th 2021 themed, "CHOOSE TO CHALLENGE" to highlight the challenges brought on by the COVID 19 pandemic.

WORLD TUBERCULOSIS DAY

V – Pharm. D students observed World Tuberculosis Day on 24th March 2021. The theme of the event was 'The Clock is Ticking', which conveyed the sense that the world is running out of time to act on the commitments to end TB made by global leaders.

WORLD CANCER DAY



Pharm.D students observed World Cancer Day on 4th February with the theme 'I AM AND I WILL'. The theme represents an empowering call-to-action urging personal commitment. It also represents the power of action taken now to have a positive impact on the future.

ICH-GCP GUIDELINES WORKSHOP



The Department of Pharmacy Practice in association with ISPOR-SVCP Student Chapter organized a workshop on Good Clinical Practice (GCP) in Biomedical Research on 27th March 2021. Dr.SR Tiruvalavan MBBS., MD., MBA., CEO of Clin'les Clinical Research Organization, Salem, took sessions on Clinical Research, GCP in human ethics, Composition of Institutional Ethics Committee (IEC) and ICH-GCP principles.

Answers for the QUIZ

1. A 2. B 3. D 4. B 5. C



Please send your suggestions to
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To

