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NEWS LETTER OF CLINICAL PHARMACY

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Vision

St.Peter's is committed to generate, disseminate and preserve knowledge and work with pioneers of this knowledge, and to be the most sought after institute globally in the field of pharmaceutical sciences by creating world class pharmacy professionals and researchers.

Mission

To achieve academic excellence with integrity and creating opportunities for leadership and responsibilities through groundbreaking performance in the field of Pharmaceutical Sciences by educating students with pharmaceutical needs of the society and to advance the knowledge through research and to serve the profession and community.



COVID-19 INFORMATION

Epidemiological study from July - September 2020

Corona virus, a positive single strand RNA virus reported in Wuhan, China in December 2019 is now a global pandemic with severe threat, affected more than 32.7 million global population till September 2020. It is highly contagious, spreads via droplets and through direct contact.

Indian epidemiological study:

REGION	TOTAL CONFIRMED CASES	TOTALCONFIRMED NEW CASES	TOTAL DEATHS	TOTAL NEW DEATHS	TIME PERIOD
India	1,583,792	52,123	34,968	772/week	July, 2020
India	4,073,148	497,793	63,498	6,792/week	August, 2020
India	5,992,532	591,913	94,503	7,751/week	September, 2020

Treatment guidelines by WHO:

IL-6 receptor blockers: Such as tocilizumab, sarilumab,Route: single IV doses typically over 1 hour and 2nd dose may be administeredafter 12-48 hours of 1st dose. Duration: typically for 10 daysDose: tocilizumab - 8mg/kg of actual body weight, Maximum dose: 800mg, Sarilumab – dosed at 400mg.Systemic corticosteroids likeDexamethasone - Route: orally or IV 6mg/daily up to 10 days, Duration: 5-14 days, other drugs in list include Ivermectin, Hydroxychloroquine, Lopinavir/ritonavir, Remdesivir are also used.

FDA APPROVED DRUG LIST (JULY TO SEPTEMBER 2020)

Drug	Date of Release	Mechanism of Action	Indication	Precautions	Complications
<u>Prasugrel</u>	7/7/2020	Prasugrel an inhibitor of platelet activation and aggregation, is aprodrug that is metabolized to both active (R 138727) and	for the reduction of the rate of platelet thrombotic cardiovascular events	Alcohol and smoking should be avoided.	Anaemia, atrial fibrillation, bleeding, shortness of

		inactive metabolites			breath
Vibativ (telvancin)	7/7/2020	bactericidal activity by inhibiting bacterial cell - wall synthesis via interference with polymerization and cross linking of peptidoglycan	indicated for the treatment of hospital-acquired and ventilator associated bacterial pneumonia caused by Staphylococcus aureus	Pregnancy can Affect your unborn baby.	Blood in the urine, difficulty with breathing, fast heartbeat.
Imatinib mysylate	7/8/2020	Imatinib mesylate is a protein - tyrosine kinase inhibitor chromosome tyrosine kinase induces apoptosis	treatment of various specific forms of chronic myeloid leukaemia (CML), acute lymphoblastic leukaemia	Medications like alprazolam are not used Alcohol and Tobacco should be avoided.	Bleeding problems
Glyco pyrrolate	7/8/2020	Glycopyrrolate exerts its antisecretory action by decreasing the secretion of glands via blockade of acetylcholine action at muscarinic (M3) cholinergic receptors. Glycopyrrolate exerts its antispasmodic also.	Glycopyrrolate is used to reduce chronic, severe drooling in paediatric patients aged 3 to 16 years with neurologic conditions and to reduce salivary secretions.	Do not take potassium chloride tablets while using this medicine may cause delayed movement of the potassium supplement Along the oesophagus and stomach	Dribbling, nasal congestion
Nasonex gn: mometasone	9/9/2020	Mometasone induces proteins called lipocortin's, which prevent the release of arachidonic acid from phospholipids by inhibiting phospholipase A2. This prevents the synthesis of potent inflammatory mediators such as prostaglandins and leukotrienes from arachidonic acid.	Mometasone (nasal) is a corticosteroid indicated for the treatment of the nasal symptoms of allergic rhinitis (seasonal and perennial), nasal congestion associated with seasonal allergic rhinitis and nasal polyps. Mometasone (nasal) is also used for the prophylaxis of nasal symptoms of seasonal allergic rhinitis.	While using this medicine certain medications should be avoided like ritonavir, bemiparin. Avoid alcohol and smoking.	Changes in skin colour

GUIDELINES OF DISEASE BLACK FUNGUS

Definition: The Black Fungus, is additionally referred as Mucormycosis, which is an aggressive, severe and rare mycosis that's affecting a number of pre and post COVID-19 patients. The disease is caused by a group of micro-organisms referred to as mucoromycetes, which are present naturally in environment, mostly seen in soil and in decaying organic matter like leaves, compost and piles. It is a serious fungal infection seen mostly in patients with previous history of immunosuppression, diabetes.

Treatment as per guidelines:

Treatment of Mucormycosis requires a multi-disciplinary approach. It involves combination of surgical debridement and antifungal therapy. Liposomal Amphotericin B is administered as initial dose of 5mg/kg weight (10 mg/kg wt. for CNS involvement) which could also be a treatment of choice. Each vial contains 50 mg active medicament, and it is diluted in 5% or 10% dextrose, and it's incompatible with normal saline/ Ringer Lactate. It must be given until a favorable response is achieved and diseased condition is stabilized which may take several weeks, later oral Posaconazole (300 mg sustained release tablets twice a day for 1 day followed by 300 mg daily) or Isavuconazole (200 mg 1 tablet 3 times daily for 2 days followed by 200 mg daily) can be suggested. The therapy has to be continued till the signs and symptoms of infection are decreased and elimination of prejudice risk factors such as hyperglycemia, immunosuppression etc., it may have may be given for longer period of time. Conventional Amphotericin B (deoxy cholate) with dose of 1-1.5mg/kg may be used if liposomal form is not obtainable and renal functions and serum electrolytes are within normal limits. The prototype drug for initial therapy of black fungus is IV amphotericin-B. Posaconazole or isavuconazole is employed as retreat/step down therapy for patients who responded well with amphotericin B. Posaconazole or isavuconazole they are also used as rescue/salvage therapy for patients who cannot tolerate amphotericin B; And in rescue therapy, the usage of oral or IV Posaconazole or isavuconazole depends on how ill the patient is, whether an initial course of amphotericin B was ready to intake, and whether the patient has proper gastrointestinal (GI) tract functioning.

Medical management:

1. Mucormycosis is treated with IV Amphotericin-B injectable form for 2- 3 weeks on clinical suspicion & as per severity even while awaiting diagnostic and culture reports.

2. Duration of pre operative Amphotericin therapy even be considered as per severity and early need for surgical intervention.
3. Oral antifungal drugs: These drugs overlap with IV route for 3-4 days before step down and later continued 1 week until endoscopic biopsy report is negative.
4. Amphotericin-B in liposomal form is preferred for patients who are suffering with renal complication due to Amphotericin-B and also in case of cerebral parenchymal involvement.
5. First line antifungal drug therapy includes: IV Amphotericin B Deoxycholate (C-AmB):
Dose: 1.0-1.5 mg/kg once per day, IV: infused for 4 - 6 hours.
6. In children below age 18years whenever Amphotericin B is given as a prolonged IV infusion through a central venous catheter or PICC; closely monitor kidney function and electrolytes during treatment. Reconstitute in water for injection, and dilute in 5% dextrose, start with test dose: 1 mg IV infusion over 20-30 minute. Loading dose intake: 0.25-0.5 mg/kg IV infused for 2-6 hours; gradually increased by 0.25 mg-increments/day to reach maintenance dose: 1-1.5 mg/kg/day. Children's below 11 years of age should be take - 7-12 mg/kg/dose IV twice on the first day and maintenance dose - 7-12 mg/kg IV once a day, starting on the second day," it increased.
7. Clean the skin injuries with warm water use sanitizers properly
8. Check hyperglycaemia fluctuations, don't miss warning signs and symptoms

MONOGRAPH ON AMIODARONE

Brand names: Cardarone, Pacerone

Class: Class III Vaughan Williams Antiarrhythmic agent

Indications: Treatment and prophylaxis of frequently recurring ventricular fibrillation (VF) and hemodynamically unstable ventricular tachycardia (VT) in patient's refractory to other therapy

Mechanism of action: Amiodarone is a primarily a class III antiarrhythmic. It works by blocking potassium rectifier currents that are responsible for the repolarization of the heart during phase 3 of the cardiac action potential

Dosing: Atrial Fibrillation: Oral : 600 to 800 mg in divided doses until a total of 10g given , then use 100 to 200 mg daily, IV: 150 mg per 100ml infused over 10 minutes , then 1mg/min for

6hours , and then 0.5 mg/min switch to oral dosing at 100 to 200mg by mouth daily, Ventricular Fibrillation : 300 mg as an undiluted rapid bolus , can repeat with a single 150 mg IV, Stable ventricular tachycardia: IV-1050mg over the first 24 hrs of therapy, delivered by the infusion regimen , initial IV load of 150 mg per 100ml infused over 10minutes then 1mg/min for 6hrs , and then 0.5mg/min thereafter.

Dosage forms:Injection: 50mg/ml (Vials: 3,9,18 ML), Oral(generic): 100,200,400 mg, Oral (Cordarone): 200mg, Oral (Pacerone): 100,200,400 mg

Contraindications: Known hypersensitivity to any of the components of amiodarone, Cardiogenic shock, Marked sinus bradycardia

Adverse drug reactions:Hypotension, Cardiac arrest, Congestive heart failure, Liver function tests abnormalities, Pulmonary toxicity, Thyroid dysfunction

Drug interactions: CYP450 ENZYMES: *Substrate* – CYP2C8 and CYP3A4, Drugs that inhibit CYP3A and CYP2C8 – May decreases the metabolism and increase serum concentration amiodarone.

RARE DISEASE CONDITION PROGERIA

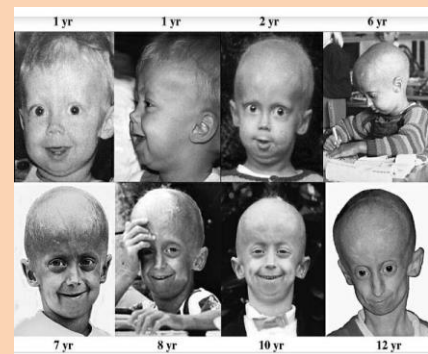
Introduction: It is an extremely rare progressive genetic disorder that causes children to age rapidly or in which rapid ageing of children can be seen. Mutation can occur randomly and cannot be inherited.

Aetiology / Causes:

It is caused by a change (mutation) in the LMNA, the defective protein (Lamin A) makes the nucleus unstable

Symptoms:

Slowed growth, narrowed face, thin lips, beaked nose and small lower jaw, Head disproportionately large for the face, Prominent eyes, eyelids incomplete closure, Hair loss, including eyelashes and eyebrows, Thinning, spotty, wrinkled skin, Visible veins



Classification:

These are of three types: 1. Hutchinson - Gilford progeria syndrome, 2. Werner syndrome, 3. Wiedemann – Rautenstaurch syndrome.

Treatment:

No cure, Regular monitoring of heart for cardiovascular diseases is necessary and also eyesight, dental check-up and hearing is also required. *Some of the medications which could relieve signs and symptoms include:* Aspirin – is administered in low doses to prevent heart attacks and stroke, Statins – to lower cholesterol, Antihypertensives – to lower blood pressure, Anticoagulants like Heparin and warfarin – to prevent blood clots, Antiepileptic medications – to prevent seizures. *Some of the therapies include:* Physical and occupational therapy– this therapy helps the child function normally with joint stiffness, Nutritious diet is necessary.

Complications: Atherosclerosis, Heart problems, Cerebrovascular diseases

Life style modifications: Keep your child well hydrated as dehydration can lead to fatal complications, give high-calorie foods