***DEPARTMENT OF CLINICAL MEDICINE, MSAMBWENI***

***PEDIATRICS AND CHILD HEALTH REVISION PORTAL***

1: a 14days old baby presents with history of refusal to feed and abnormal movements and yellowness of the skin and mucous membrane for 4days. Positive findings on examination include , mild jaundice, apnoeic episodes episodes, jerking movements, vertical deviation of the eyes and abnormal neonatal reflexes. Temp 38.2degrees, respiratory rate is 70breathgs per minute(regular), grunting with severe lower chestwall indrawing. The chest is clear, normal heart sounds. There is palpable spleen 2cm below the costal margin. The baby weighs 3kg.

1. List the three main differential diagnoses (3marks)
2. Give only two most beneficial investigations in this child (2marks)
3. Write a comprehensive treatment sheet for this child, addressing only the specific management on admission (15marks)

**Responses**

1. **Main ddx: neonatal meningitis, pneumonia, neonatal sepsis**
2. **Blood cultures, chest radiology**
3. **Iv benzylpen 50,000iu/kg 6hourly x10/7, im phenobarb 20mg/kg stat, then 5mg/kg 24hourly for 5days, oxygen by nasal prong at 1L/min, iv 10% dextrose 5mls/kg stat, then continue feeding by NG tube with EBM at 150mls/kg/day at 3hourly feeding**

2: joseph 24months old presents with 2weeks history of a swollen feet, peeling of the skin with exudation like burns, refusal to feed and loose stool. On examination he is apathetic, and weighs 6.5kg

1. Probable diagnosis/classification(2marks)
2. Outline the 10 steps in its management(10marks)
3. Outline the common precipitating factors for his condition (8marks)

**RESPONSES**

1. **Severe acute malnutrition/ kwashiokor**
2. **Step one**

**Check blood glucose and treat if low than 3mmol/l(5mls/kg 10% dextrose if glucose test unavailable treat for hypoglycemia if not alert, give oral/NG glucose or feeds as soon as possible not more than 30min after admission**

**Step 2:**

**Check for hypothermia, axillary temperature less than 35degrees celsius , if present warm with blankets, warm bags of fluid or a heater**

**Step 3**

**Check for dehydration if has diarhea. If in shock give iv fluids if not in shock use RESOMAL at 10mls/kg/hour, then 7.5mls/kg over 1hour**

**Transfuse if hb less than 4g/dl at 10mls/kg whole blood in 3hours plus frusemide**

**Step 4**

**Correct electrolyte imbalance. Use commercial F75. If not available mineral mix and 4mmol/kg/day of oral potassium may be need to be added in feeds**

**Step 5**

**Iv antibiotics . pen plus gent if improved change to amoxil at 48hour. Add nystatin/clotrimazole for oral thrush if present , abz after 7days of treatment. TEO (+atropine drops for pus /ulceration in the eye.**

**Step 6**

**correct micronutrient deficiencies by:**

**vitamin A po if eyes signs on admission , 2, 14**

**multivits for atleast 2weeks if no RUTF or F75/F100**

**folic acid 2.5mg alt days if no RUTF/F75/F100**

**iron only when gaining weight anf if no RUTF**

**step 7**

**feeding with F100. prescribed at 100mls/kg /24hours(3hourly)**

**step 8**

**catch up feeding if weight gain and apetite improved. Monitor weight gain. Give F100 or RUTF usually day 3-7**

**step 9**

**provide care and stimulating environment for the child**

**step 10**

**eduction to family, preparation for discharge and follow up.**

3: 12 months old baby presents with multiple seizures in 24hours with fever. On exam sick looking, severely pale. In respiratory distress, AVPU at U. Blood slide is positive for hyperparasitemia

1. Write a treatment plan (5marks)
2. Anticipate complications (5marks)
3. Outline relevant investigations (10marks)

RESPONSE

**Treatment plan**

* A) IV artesunate 3mg at 0hr, at 12hour and at 24hour then 24hourly till child can tolarate orals
* Oxygen by nasal prong at 2l/min
* Fluid maintanance 1L of RL in 5% dextrose over 24 hours
* Iv ceftriaxone 500mg 12hourly x5/7
* Coma care. 2hourly turning, catheterize to monitor urine output
* Transfuse whole blood 20mls/kg over 3hours
* NG feeding

**Anticipated complications**

* Epilepsy
* Mental retardation
* Cerebral palsy/cranial nerve palsies
* Mental retardation
* Hearing loss

**Relevant investigations**

* Pbf
* Blood cultures
* Csf examination
* Chest radiology
* Urinalysis
* UECs

4: a 12months old child present with recurrent wheeze and respiratory distress. She has an eczematous skin lesion on the cheek. On examination she is in respiratory distress with an audible wheeze, Sao2 of 88%. Mom is on HAART .

1. Institute immediate treatment (5marks)
2. Outline the possible investigations which may be beneficial to the child (5marks)
3. What are the differentials diagnoses (5marks)
4. Outline the common, possible trigger factors (5marks)

**RESPONSE**

1. **Immediate treatment**
* **Nebulise with salbutamol 2.5mg in 2mls water for injection 4hourly till child breathes slowly, with good air entry .**
* **Give oxygen by nasal prong 2l/min**
1. **Possible investigations**
* **chest radiology**
* **full hemogram**
* **HIV antibody testing**
* **ECHO/ECG**
* **Skin test**
1. **Differentials**
* **PTB**
* **PCP**
* **Asthmatic attack**
* **Food allergy/atopy**
1. **Triggers**
* **Pollens**
* **Dust**
* **Cow dunder**
* **Dust**
* **Smoke**
* **Viral infection**
* **Emotional stress**

5: a 7years old baby presents at outpatient department , in Tiwi RHTC, with a 2weeks hx of cough and fever. The child had been on amoxil and paracetamol without good response. The cough is productive, mucoid, non blood.. on examination, child is wasted, weighing 17kg, with no oral thrush., resp rate 30breaths/min, temp 38.4degrees celcius., reduced air entry on the left side on auscultation

1. What is the possible differential diagnosis (2marks)
2. Carry out appropriate investigations(5marks)
3. Outline treatment plan based on your differential/impression(3marks)

**RESPONSE**

1. Pulmonary tuberculosis
2. Chest radiology, sputum Gene xpert/MTB/RIF, hiv antibody testing, full hemogram, TST
3. Anti TBs... 2RHZE/4RH plus steriods like prednisolone 2m/kg (30mg odx30/7, then taper over 2/52 Nutritional support

6:a) outline the management of a newborn weighing 3kg presenting with features suggestive of neonatal sepsis (3marks)

**RESPONSE**

1. Management
* Iv/im benzylpen plus iv gent
* Feeding by NG tube or oral if possible keep warm

( b): outline measures will take to prevent infections in the newborn period (5marks)

1. Prevention of neonatal infections
* Good basic hygiene and cleanliness during delivery of the baby
* Special attention to cord care
* Eye care
* Exclusive breastfeeding
* Strict procedures for hand washing for all staff and families before and after handling the baby
* Clean injection procedures
* Removing intravenous drips when no longer in use
* Avoiding unnecessary blood transfusions
* Not using water for humidification in incubators ?(wher e pseudomonas will easily colonize) or by avoiding incubators (using kangaroo mother care instead)

( c): identify the treatment of a child aged 5months with acute ear infection (2marks)

**Response : give amoxil DT 25mg/kg 12hourlyx5/7, paracetamol 10-15mg/kg 6hourlyx2/7**

CASE 7

1. List the danger signs in IMNCI (3marks)

**Response: vomitting everything, convulsing NOW/hx of convulsions during current illness, lethargy,/loss of conciousness/altered level of conciousness, inability to drink or breastfeed**.

1. Outline diagnostic investigations for a child presenting with cola colored urine, with morning puffiness.(5marks)

**Response: urinalysis (hematuria, red cell casts, proteinuria ii): ASOT antibody to streptolysin O enzyme**

1. Outline differential diagnoses of a child with massive splenomegally (2marks)

**Responses: myeloproliferative diseases, CML, gauchers disease, Leishmaniasis, TSS**

 CASE 8

1. Classify dehydration as per current WHO guidelines (3marks)

**Responses: hypovolemic shock from diarhea/dehydration, severe dehydration, some dehydration, no dehydration**

1. Manage a child with hypovolemic shock due to diarhea/dehydration(7marks)

Response:

* Iv line, withdraw blood for emergency investigations ( Hb, GXM, hiv test, blood glucose, MRDT
* Iv boluses of RL 20mls/kg rapidly.
* Reassess after each bolus.
* If no improvement repeat the bolus 20mls/kg RL
* If improved at any point shift to plan C sec phase of 70mls/kg over 21/2 hours if more than 12 months or over 5hours if less than 12months.
* Signs of improvement : warm extremities, immediate cap refill, avpu a, pulse good volume.
* Reassess after 5hours/21/2 hours to see whether improved. If no signs of dehhdration.. go to plan A.

 CASE 9

1. Differential diagnoses of a child with cough with or difficult breathing, classsify a 6months old baby presenting with cough, and central cyanosis on examination with severe respiratory distress.(10marks)

**Response**

* Bronchiolitis
* Pneumonia
* Severe malaria
* PTB
* PCP
* LTB
* Congenital heart diseases
* FB
* Bronchiectasis
* CCF
1. A newborn baby born at gestation of 27weeks in respiratory distress. What could be the problem, investigations, management (10marks)

**Response: likely newborn has hyaline membrane disease**

**Investigations:**

Chest radiology, full hemogram, UECs, ECHO, blood cultures, blood gases analysis,

**Management:**

* Oxygen by nasal prong 1/2L/min, antibiotics, iv fluids maintanace, feeding, keep warm,

 CASE 10

1. A 12months old baby presents with fever for 2days with vomitting every thing . on examination child is lethargic, temp 39degrees celcius. Neck is stiff. Ebs 1mmol/litre. Poosible diagnosis, investigations relevance. Prepare an empirical treatment addresing specific issues. (7marks)

 **Response:**

* **iv ceftriaxone 500mg 12hourly x1/52, iv 10%dextrose 50mls stat, iv maintanance fluids (RL in 5% dextrose 1L/24hours,**
* **possible diagnosis is: Pediatric bacterial meningitis**
* **investigations: blood cultures, full hemogram, CSF exam (mic, biochem, microbiology)**
1. Identify the common possible etiological organisms (3marks)

**Response:**

**Hemophilus influenza, strept. Pneumoniae**

 CASE 11

1. Outline the indications of oxygen delivery to a 6months old baby (5marks)

**Response:**

* In severe pneummonia, bronchiolitis or asthma who:
1. Have central cyanosis
2. Unable to drink (if due to respiratory distress)
3. Severe lower chest wall indrawing
4. Resp rate of 70breaths/min
5. Grunting with every breath
6. Head nodding
7. Outline common blood transfusion complications (8marks)

**Response:**

Blood transfusion complications

1. Hypersensitivity reaction
2. Transmission of blood borne diseases
3. Hyperkalemia
4. Circulatory overload
5. Hypocalcemia
6. Outline common indications of blood transfusion (7marks)

Response;

**Indications of blood transfusion**

1. Acute blood loss, when 20-30% of the total blood volume has been lost and bleeding is continuing
2. Severe anemia
3. Septic shock
4. To provide plasma and plateletes for clotting factors. If specific blood components are not available
5. Exchange transfusion in neonates with jaundice

 CASE 12

1. Classify asthma as per WHO guidelines/protocol (5marks)

Response

1. Severe asthma: any one of these: oxygen sat less than 90%, central cyanosis, inability to drink /breast feed

AVPU= v, p, or u,l inability to talk/complete sentence, PR more than 200bpm(0-3years) and more than 180bpm 4-5years

ii) mild-moderate asthma: wheeze plus lower chestwall indrawing or fast breathing.. check at cut offs for fast breathing

1. Manage a child with severe asthmatic attack in Tiwi RHTC(5marks)

**Response:**

**Admit**

**Nebulise with salbutamol 2.5mg in 2mls water for ijection every 20minutes upto 3doses**

**Give oxygen**

**Prednisolone 2mg/kg for 3-5days**

**Iv antibiotics as in severe pneumonia**

How to manage mild-moderate asthma: salbutamol 2puffs of inhaler or 2.5mg nebulised salbutamol every 20minutes upto 3 doses, oxygen, monitor closely for 1-2hours if mild symptoms, allow home on salbutamol MDI give 2 puffs every 6hours, counsel the care giver on signs of deterioration and scheduled visit within 48hours.

 CASE 13

1. Identify the emergence signs and priority signs (5marks)
2. Manage a child 12months old presenting with convulsions, on exam child is convulsing more than 15minutes(3marks)
3. Carry out emergency investigation in a child who has altered level of conciousness with fever(12marks)

 CASE 14

1. A 18months old child presenting with diarhea for 15days, weighing 12kg. Febrile with temp of 38degrees celc, what possible causes, investigations, complication (5marks)
2. Outline common causes of diarhea(3marks)
3. Classify causes of seizures in a child aged 2years with recurrent seizures (12marks)

 CASE 15

1. Stabilise a preterm baby(10marks)
2. Identify causes of prematurity (10marks

 CASE 16

1. Outline the different methods of oxygen delivery
2. Outline complications of oxygen therapy
3. What are source of oxygen in msambweni CRH

 CASE 17

1. Outline differentials diagnoses of wheezing (5marks)
2. Outline differentials of a 24months old child with upper airway obstruction(5marks)

 CASE 18

1. Manage a child with mastoiditis (2marks)
2. Outline complications of pediatric bacterial meningitis (5marks)
3. Classsify jaundice, outline causes of jaundice persistent for more than 14days(5marks)
4. Describe the complication of a hyperbilirubinemia, unconjugated(8marks)

 CASE 19

1. Identify complications of phototherapy (5marks)
2. Classify anemia(3marks)
3. Diagnose a child with iron deficiency anemia(5marks)
4. Manage a child with hb of 5gdl in respiratory distress(7marks)

 CASE 20

1. Outline diffedrential diagnosis of a child aged 5years with an abdominal mass(5marks)
2. Carry out specific investigations for the above child(5marks)
3. Outline diferential diagnoses of a child with jaw mass(5marks)
4. Outline investigations of a child with echymoses, anemia, with persistent fever(5marks)