SIMPLIFIED PROTOCOL FOR ADMISSION OF CRITICAL CASES IN INTERNAL MEDICINE

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Neurological Disorders

Strokes:

❖ Cerebral infarction /TIA

Admit at ward only if

- GCS: 13 - 15
- SBP < 220/120
- No aspiration
- No other acute organ affection (renal, cardiac)
- No other comorbid conditions (CKD, CLD, DKA, sepsis)
- TIA (symptoms resolving within 24 hrs)

Admit at Intermediate care if

- GCS: 9 - 12
- Aspiration which doesn't need intubation and/or ventilation (responsive to O2 therapy + antibiotics)
- BP > 220/120 but with GCS ≥ 13
- Other comorbid conditions with stable patient (stable vital signs + conscious level)

Admit at ICU if

- GCS ≤ 8
- Aspiration needing intubation & ventilation (refractory hypoxia).
- Associated DKA or sepsis or acute kidney injury.

❖ Intracranial hemorrhages

Intracerebral hemorrhage /subarachnoid hemorrhage / spontaneous subdural hemorrhage

- No admission at ward absolutely

Admit at Intermediate care if

- GCS ≥ 9

Admit at ICU if

- GCS ≤ 8

and/or

- Aspiration pneumonia not responsive to oxygen therapy (need tube + ventilation)

Seizures:

No admission at Ward absolutely

Admit at intermediate care if:

GCS > 8

Able to protect airway (airway تركيب)

No aspiration

No underlying Hemorrhage Or encephalitis or electrolytes disturbancies

Admit at ICU if

GCS ≤ 8

Aspiration

Status epilepticus (persistent attack ≥ 30 min)

Underlying hemorrhage or encephalitis or electrolytes disturbances

Guillain Barre Syndrome, Myasthenic crisis, Ascending Myelitis

Should be admitted at **Intermediate care** only if the patient is fully conscious with stable hemodynamics and normal ABG

Otherwise **---> ICU**

CNS infections:

If Q **Meningitis** ----> refer to fever hospital

If admitted ----> ICU isolation

If Q **encephalitis**:

Admit at intermediate care if

-GCS ≥ 9

-No fits

- Aspiration responding to oxygen (target O2 saturation

Admit at ICU only if

- GCS ≤ 8

- associated fits

- Aspiration pneumonia.

Undiagnosed coma: (any degree)

No admission at Ward absolutely

▸Admit at intermediate care if

- GCS ≥ 9

- stable other vital signs (BP, temp, RR, HR)

▸ Admit at ICU if

- GCS ≤ 8

- Abnormal vital signs (shock, hypothermia, hyperpyrexia,

Persistent tachypnea ≥ 30 or

Bradypnea ≤ 8

HR ≥ 130 or ≤ 40

Infections

Sepsis:

Documented septic focus (history or exam or investigations) e.g. UTI, pneumonia, etc

+

SIRS (Systemic Inflammatory Response Syndrome)

≥ 2 of the following

- HR > 90
- RR > 20 or PaCO2 < 32
- Temp > 38 or < 36
- WBC'S count ≥ 12,000 or ≤ 4000

Then use qSOFA score (simplified SOFA) to assess the degree of sepsis

- Confusion ----->1
- RR > 22 -----> 1
- SBP ≤ 110 ----> 1

Score ≥ 2 **-----> ICU**

Score ---> 1 **----> intermediate care**

Assess sequential organ failure {SOFA}

- CNS: confusion
- CVS: SBP < 90
- Chest: PaO2/FiO2 < 300
- Kidney: creatinine > normal
- Liver: bilirubin > 1.2
- Platelets < 100

≥ 2 organ affection --->severe sepsis **-----> ICU**

- **Septic shock:**

  Sepsis + hypotension not responsive to fluids **-----> ICU**

- **FUO** (fever for ≥ 2- 3 weeks without obvious cause despite investigations

  ----> Fever hospital referral first

If no infectious cause + stable vital signs

+ Normal conscious level **---> Ward & follow up**

CHEST

★ Asthma:

1) Acute severe asthma

Expiratory rhonchi or tight chest in known asthmatic patient with the following features

RR > 25, HR > 110, O2 sat < 90%

The patient can't complete one sentence

--> Admit at ICU

2) Near fatal life threatening asthma

Respiratory muscle exhaustion, cyanosis, tight chest + O2 sat < 90%

----> Immediate intubation, vent in {ICU}

3) Acute exacerbation of asthma

Acute asthmatic attack + RR < 25

HR < 110, O2 sat > 90%

The patient can speak in phrases

-----> Intermediate care

★COPD:

Acute exacerbation of COPD

New onset of dyspnea ± Cyanosis, increased wheezes, increased sputum production

+ Evidence of infection

After doing CXR & ABG

- If PH: 7.25 - 7.35

Admit at intermediate care

- If PH < 7.25 or confusion with obvious CO2 narcosis

Admit at ICU (often needs mechanical ventilation)

RESPIRATORY FAILURE: **Admit at ICU**

Never admit at intermediate care

★ Pneumonia:

According to CRB- 65

C: confusion --> 1

R: respiratory rate > 30 --> 1

B: BP, SBP < 90 or DBP < 60--> 1

Score 0 ---> Home treatment

Score 1 ---> Ward

Score 2 ---> intermediate

Score≥ 3 ---> ICU

According to CURB- 65 score: CURB-65 scores are slightly different to abovementioned scores, because we have no available serum Urea in the ER, So I have changed it slightly to save the patient more.

▸ **ARDS**

Criteria for Diagnosis

Acute onset - bilateral infiltrates (patchy alveolar opacities in chest imaging) -

PaO2/FIO2 < 300 - Normal ECHO

Admit at ICU

▸ **Open pulmonary TB** (established or highly suspicious)

Should be **referred to Chest hospital**

If admitted ---> isolation at ICU

Never admit at Ward or intermediate care.

▸ **Tension pneumothorax** (spontaneous)

Should be **admitted at Cardiothoracic ICU**

If admitted by internal medicine resident

Urgent intercostal tube underwater seal

If stable (O2 sat ≥ 95%, normal BP, HR, temp, RR) **---> Admit at Intermediate care**

If unstable (hypoxia, shocked) **--> ICU**

Hepatology

Liver diseases should not be **admitted in internal medicine ward.**

Only we can admit Cirrhotic patients with other comorbid condition as a cause of admission

Not related to complications of LCF

Example: we can admit patient with CLD if he has pneumonia, DKA, hypoglycemia etc.

These cases may be admitted in ward only if vital signs are stable

Contact your specialist of the day when needed

Endocrinology

DIABETES:

▶ DKA

Criteria of diagnosis (ADA)

- RBG > 250, PH< 7.3, HCO3 < 15, Moderate ketonemia or ketonuria (≥ 2+), High anion gap

DKA ---> **Intermediate care**

Only admit at ICU if confusion with GCS ≤ 8 often PH < 7.1

▶ HHS (hyperosmolar hyperglycemic coma)

Criteria for diagnosis (ADA)

RPG > 600, plasma osmolality ≥320, PH >7.3, ketonuria: absent or 1+

Supporting features (severe. dehydration, confusion, prerenal impairement)

HHS **--> intermediate care**

Only admit at ICU if GCS ≤ 8

▶ Hypoglycemia

---> Intermediate care

▶ Thyrotoxic crises & Myxedema comas **--- > admit at ICU**

▶ Acute adrenal insufficiency

Admit at Intermediate care

Nephrology & Electrolytes

▸**Acute kidney injury** with all causes

No admission at ward absolutely

Admit at Intermediate care

Admit only at ICU if confusion, uremic encephalopathy, severe volume overload, severe metabolic acidosis (PH < 7.2)

▸**Hyper& hyponatremia** Admit at intermediate care

Admit only at ICU ---> if confusion with GCS ≤ 8 or fits

▸**Hypercalcemia (**> 13) or severe hypocalcemia

Admit at intermediate care

If confusion with GCS ≤ **8 ---> ICU**

▸**Hyperkalemia & Hypokalemia**

Hypokalemia: Admit at intermediate care only

If K ≤ 2.5 with stable hemodynamics with no arrhythmias

If arrhythmias or bad general condition **--> ICU**

Hyperkalemia: Admit at Intermediate Care only

If K ≥ 6 with stable hemodynamics with no arrhythmias ----> anti - hyperkalemic measures

If arrhythmias, bad general condition **---> ICU**

▸**Hypertension**

All hypertensive emergencies should **be admitted at ICU**

-Hypertensive encephalopathy

-Aortic dissection/ACS (CCU)

-ICH, AKI -----> ICU

Rheumatology

▸All stable rheumatological cases should be admitted at WARD

Except

SLE with Rapidly progressive GN (AKI) **-----> Intermediate**

SLE with cerebritis ---> Intermediate if GCS ≥ 9

If GCS ≤ 8 **---> ICU**

Hematology

All cases **should be admitted at Ward** except:

▸**Severe thrombocytopenia** due to any cause with PLTS < 10,000 + ICH **----> ICU**

▸**Severe thrombocytopenia** due to any cause with PLTS < 10,000 + intra peritoneal hemorrhage **----> Intermediate care**

▸ **Marevan overdose** + CNS or GIT hemorrhage **---> ICU**

▸ Marevan with Intraperitoneal hemorrhage **----> Intermediate care**

▸ **DIC** with stable vital signs & conscious level **---> intermediate**

▸**DIC** + low GCS ≤ 8 + shock **---> ICU**

▸ **bleeding nose, gums, purpura & ecchymosis, hematuria, vaginal bleeding**

Due to established or suspicious hematological disease can be admitted at ward

Only if

- stable BP, pulse, normal conscious level

* Low BP, shock or confusion/Coma with GCS ≥9 **----> intermediate care**

★ GCS ≤ 8 and/or bad general condition**-----> ICU**

All cases of **(((Cardiology)))** should not be admitted at Internal Medicine ward or care units (only Cardiology department & CCU)