Intensive Care Medicine

What is it about ?

What is the main purpose of Intensive Care Units ?

Intensive Care Medicine

> *Monitoring*

> *Support*

until the patient recovers from his disease

Intensive Care Medicine

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Intensive Care Medicine

A primary disease process triggers the dysfunction of one or several organsystems.

The more organsystems are affected, the more likely is the patient to die

Intensive Care Medicine

We think in terms of organ systems

- Respiratory system — A + B
- Circulatory system — C
- Nervous system (consciousness) — D
- Kidney
- Liver
- Hematology/Coagulation system

Intensive Care Medicine

Patiens do not die of their disease !!!

Intensive Care Medicine

`Patients do not die of their disease. They die of the physiologic abnormalities of their disease`

(Sir William Osler)

Assessment of the seriously ill Patient

Normal stages in assessing a patient:

History

> Clinical investigation

> lab, additional investigations

> diagnosis

> Treatment

. ***Is this a good idea ?***

Assessment of the seriously ill Patient

- *The order in which this occurs is different in seriously ill paients.*
- *Why is this ?*

Assessment of the seriously ill Patient

- **Urgency** with which treatment needs to be started because of derranged physiology

- *`Patients do not die of their disease. They die of the physiologic abnormalities of their disease`*
- *(Sir William Osler)*

Assessment of the seriously ill patient

- Restrict to the information needed to guide the next treatment step

- Working diagnosis – needs to be reassessed repeatedly as more information becomes available and on the basis of response to treatment

Assessment of the seriously ill patient

Tasks *that are typically carried out sequentially often have to be carried out in parallel with history taking, examination and initial resuscitation often occuring* ***simultaneously***

Assessment of the seriously ill Patient

Approach for managing the acutely ill ***unstable*** patient:

- Phase 1 Fix physiology
- *Review respons*
- Phase 2 Short history, examination, tests
- Phase 3 Preliminary diagnosis and treatment

Assessment of the seriously ill Patient

The question to be answered initially:

How ill is the patient and ***how much time*** *is available* for assessment and investigation before initiating treatment ?

Assessment of the seriously ill Patient

Clinical and and laboratory features suggestive of severe illness:

- Respiratory: Tachypnoea, recessions, accessory, muscles, low Sats, low RR
- Cardiovasc: Tachycardia, hypotension, cold peripheries, skin bradycardia
- Nervous syst: decreased consciousness, confusion
- Renal: oliguria, anuria

Assessment of the seriously ill patient

- GI-system: Haematemesis, coffee-ground vomitus, malaena, jaundice
- Hematology: Coagulopathy, thrombocytopenia, severe anemia
- Metabolic: acidosis, lactate, severe electrolyte anormalities, high K, low Na

Assessment of the seriously ill patient

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Assessment of the seriously ill patient

Warnings signs of severity:

- Resp: rate > 30 or < 8 breaths/min
- Cirk: syst BP < 90 or mean BP < 70 (60) mmHg
- Pulse: > 150 or < 50
- Nevr: GCS < 12
- Oliguria: < 0,5 ml/kg/t
- Sodium: < 120 mmol/l or > 150 mmol/l
- Potassium: < 2,5 mmol/l or > 6 mmol/l
- PH: < 7,2
- Worried nurse: Concerned experienced nurse

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Assessment of the seriously ill patient

A + B + C

Key component of the initial assessment are assessment of ***airway*** patancy, ***breathing*** and ***circulation***.

Absence of any of these ***prompt immediate resuscitation !***

Assessment of the seriously ill Patient

Assess the ***compensatory responses***

`Sympathetic nervous system`

- The magnitude of the activation of the sympathetic nervous system gives an indication of the severity of the illness
- Preterminal: compensatory responses is exhausted
-

Assessment of the seriously ill Patient

- A patent airway ?
- B marked tachypnea > does it mean respiratory failure? Sats, desaturation is often a late feature
- C BP > hypotension is often a late feature i Inadequate tissue perfusion: Conscious level, skin mottling, cold peripheries, poor cap. refill, oliguria, metabolic acidosis
- D reduced conscious level > means poor perfusion, compensatory mechanisms are overwhelmed, or it means severe neurological disease

Assessment of the seriously ill Patient

Investigations should not delay initial resuscitation, but can be carried out in parallel while the patient is resuscitated !
Aim is to get the patient in a save environment in terms of physiology as soon as possible!

Standard investigations would be:
Sats, blood gases, electrolytes, renal function tests, complete blood count, clotting

Assessment of the seriously ill Patient

Patients which are difficult to assess:

- Young adults
- Elderly
- Immune-compromised
- Trauma

Assessment of the seriously ill Patient

The young patient:

- Compensatory mechanisms mask signs of severe illness
- Late decompensation
- Physiological abnormalities indicate very severe illness

Assessment of the seriously ill patient

Elderly and Immune-compromised:

- Inflammatory response may be damped, hiding signs of severe illness
- Physiological reserve reduced

Assessment of the seriously ill patient

Trauma:

- Multitude of possible injuries and the effect of distracting pain making injuries difficult to localize
- Take history of mechanism of trauma

Assessment of the seriously ill Patient

- Aim of the initial examination is to detect life-threatening physiological abnormalities and to determine the appropriate `supportive`therapy
- Aim of the subsequent investigation is to determine the underlying course in order to determine the appropriate definitive therapy
- Exam should be repeated frequently to assess the respons to therapy and detect possible worsening / change of signs

Assessment of the seriously ill Patient

Further investigations and more detailed history can be done once the patient is in a `safe environment` – in terms of physiology

Assessment of the seriously ill Patient

Review:

Following the primary assessment, initiation of emergency treatment and full assessment, a working diagnosis and plan for the subsequent management should be developed.

This plan should include an ongoing review of the response to treatment, and a consideration of the appropriate placement of the patient, possibly in Intensive Care or another `High Care` area.

Assessment of the seriously ill Patient

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