Burns & Wound Healing

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Burns

Questions

1	How did it happen?	
2	When did it happen (time)?	
3	Where did it happen?	"It's important to know whether it was in an open or closed area" (Closed area more prone to have inhalation injury)
4	What have been done so for the burnt area?	(Ask the patient if he/she did anything to burnt area, such as using ointments or drugs)
5	Associated symptoms	

Medical history

1	Do you have any chronic diseases?	(asking about liver or heart diseases, to asses treatment)
2	Do you have previous surgical procedure ?	
3	Do you have any blood disorder	"hemophilia"

Medication

1	Do allergy to any medication	(mainly to sulfa because Flamazine contains it) (Flamazine is topical antibiotics, that is used to treat and prevent infection of skin wounds.

Social history

1	Do you smoke?	smoking delays wound healing

Causes

1	What is the cause of burn?	**Thermal:** Dry "flames" or wet " scalds" *liquids* **chemical:** acids " coagulation necrosis" or alkalis " liquefaction necrosis" *more serious* **electrical:** high " >1000 voltage "or low " <1000 voltage "

Degree (depth)

1st

Superficial *epidermis only*

- erythema "redness"
- swelling
- may be quit painful

Example: "sunburn"

2nd

(partial-thickness)
epidermis + dermis
Types:
1- **superficial** :
2- **deep** :

- Pain "sup. more painful"
- Blister
- White skin
- Hair loss

Example: "scalds"

3rd

(Full-thickness)
all skin layers

- white and leathery
- coagulated blood vessels
- painless
- black/charred skin

4th

Extends to deeply into subcutaneous tissue
" muscle, fascia, bone"

May lead :
"compartment syndrome"

The burn size

1 Role of 9 :

Adult	Children
○ head = 9% "front 4.5% , back 4.5%" ○ chest = 9% ○ abdomen = 9% ○ upper/mid/ low back and buttock = 18% ○ each arm = 9% "front 4.5% , back 4.5" ○ each leg = 18% "front 9% , back 9%" ○ groin = 1%	○ head = 18% "front 9% , back 9%" ○ chest = 9% ○ abdomen = 9% ○ upper/mid/ low back and buttock = 18% ○ each arm = 9% "front 4.5% , back 4.5" ○ each leg = 13% "front 6.5% , back 6.5%" ○ groin = 1%

2 Using patient palm as 1% we measure burned area

Complication

- infection
- dehydration (due to 3rd spacing)
- inhalation
- compartment syndrome (circumferential burns of extremities)
- acute tubular necrosis of kidneys (due to myoglobenuria)
- metabolic acidosis
- arrhythmias (due to hyperkalemia)

Management

1 What you will do to the patient?

- ABC "airway, breathing, circulation"
- Fluid resuscitation "use ringer lactate"
- Do fluid resuscitation in parkland formula (4 * weight in kg * burned body surface area) it will give you amount of fluid to be delivered in 24h "give half of this amount in first 8h since the burn and the other in next 16h"

Referral criteria*important*

1 Why you want to admit this patient in burn unit?

- Partial-thickness burns (2nd degree) greater than 10% of TBSA
- Burn in special area like "face, hands, feet, genetalia, major joints"
- Full-thickness burns (3rd degree)
- Chemical burns
- Electrical burn including lightening injury
- Inhalation injury "it needs intubation"
- The presence of pre-existing medical problem
- If the patient is children and no one take care of them
- The presence of circumferential burns "compartment syndrome" that needs escharotomy.