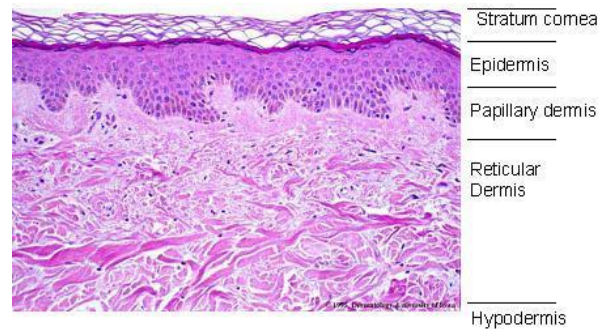


Compare: Honey dressing with Silver Sulphadiazine Ointment dressing in BURN wound healing

BURN



Project :-

Burn is a coagulation damage to body tissues due to heat, chemical, electricity, radiation etc.

Scald is a type of burn caused by liquid heat, causing same damage.

Inhalation injury to breathing system is due to smoke or chemical fumes.

Types -

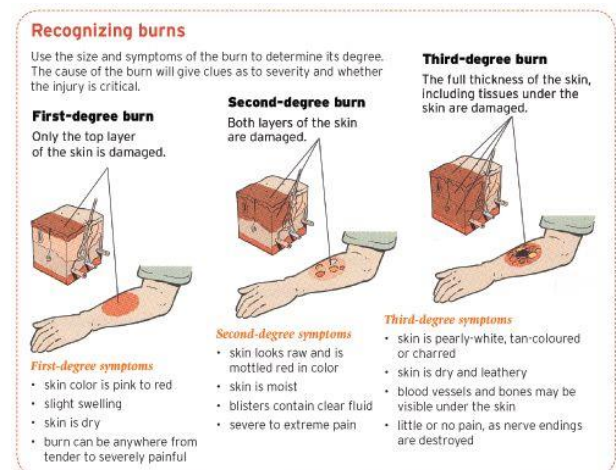
Three types in general

- (1) First Degree - damage to outer layer of skin
- (2) Second degree - Outer layer and immediate underneath layer of superficial part of skin

- (3) Third degree - damage to deep layer (dermis) of the skin and underneath tissue.

Burn in first stage gives, redness, swelling

In Second stage, blister and surface burning with superficial skin damage can be seen.



3rd degree damage deeper part of skin tissue is seen, and only judged after two or three days, as initially blisters and blackening of skin tissue is seen.

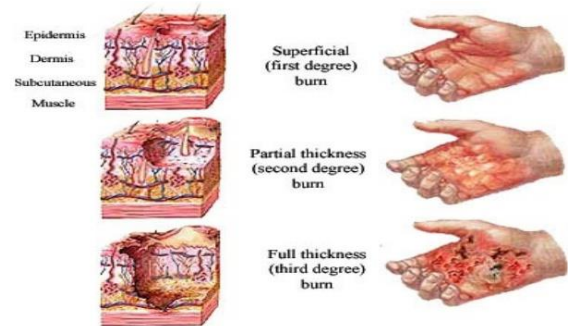
Pain is very important as all nerve endings are exposed in first and second degree. But are damaged in 3rd degree and pain is less, except at later part due to damage tissue and infection.

LOCAL RESPONSE -

(1) Zone of Coagulation - Occurs at the point of maximum damage. Here damage is irreversible due to coagulation of tissue proteins.

(2) Zone of stasis - Surrounding zone with perfusion of tumor with odema. This area is salvageable with good recovery.

(3) Zone of Hyperaemia - Outer Zone tissue perfusion with redness and odema. It recovers to normal but infection to be controlled.



SYSTEMIC RESPONSE

- (1) Loss of Fluid
- (2) Cardio Vascular Changes - Capillary permeability is increased leading to loss of intravascular protein and fluid. Peripheral and splanchnic vasoconstrictor. Myocardial contractility decreases, systemic hypotension and poor tissue perfusion.
- (3) Respiratory Changes - Bronchio constriction, bronchi alveolar damage and respiratory distress.
- (4) Metabolic Changes - Basal Metabolic rate increases, poor tissue perfusion and start of catabolic process.
- (5) Immunological Changes - Toxins generated by burn are absorbed and leads to damage to immune system of body.

MANAGEMENT

Rule of 9 is commonly used to estimate the burn surface area in adults.

- Body divided in anatomical regions that represent 9% (or multiple of 9%) of the total body surface

Body - 100%

(1)	Head and Neck	-	9%
(2)	Trunk - Front	=	18%
(3)	Trunk Back	-	18%
(4)	Arms 9% each - Both	-	18%
(5)	Legs 18% each - Both	-	36%
(6)	Perineum	-	1%

- Morbidity and Mortality rises with increase in % of the burn and depth of the burn.

- Assess % and depth on admission
- Burn less than 15% can be treated at home with dressings, antibiotics, analgesics and good diet in younger age group of patient below 50 years
- Above 15% needs Hospitalization
- Burn in children and old age needs more precaution and care

FIRST AID

- Cool water over the burn area
- Small area, immerse in cold water
- Apply clean wraps and cover whole body to prevent loss of body heat
- First 6 hours are important
- Transport to hospital as soon as possible

INITIAL MANAGEMENT -

- Burns are sterile initially
- Focus on local care with dressings
- Inj. Tetanus Toxoid
- IV-fluids - Ringer lactate solution to maintain fluid
- IV Antibiotics
- Analgesics
- Sleeping medication

After 2 to 3 days

Reassess - Wound percentage and its depth and plan further treatment

MAIN TREATMENT

- (1) Fluid Management -for 2 weeks to maintain body perfusion.
Assess oral intake before discontinuing IV fluids
- (2) Daily dressings -
 - Open management
 - Different Dressings
- (3) Antibiotics as per culture report
- (4) Removal of blisters, necrotic burn tissue and prepare deeper tissue for early recovery
- (5) Early mobilization of joints
- (6) Physiotherapy/Exercises

PROJECT



- Systemic treatment with fluids and antibiotics are important part of treatment.
- Good local care of burn wound is ultimate to save life and give least morbidity.
- Different local ointments and other preparation are used to keep wound uninfected and clean for early healing.
- Many kinds of such dressings are used.

- Project plan is to compare usual Antibiotics ointments like –
Betadine/ Silversulphadiazine dressings –

VERSUS

Honey dressings

and see if it helps better in early and good recovery and enhances healing.

HONEY



Honey is produced by Indian Hive Bee - APIS CERENA,
European Hive Bee – APIS MILLIFERA

Honey is either unifloral or multifloral depending upon its collection from one plant source or from many plants source. Depending upon its plant, it has different colours from yellow to brown and texture - thin or thick. But contents are same – Sugar (Sucrose/Fructose) minerals, vitamins, various enzymes like catalase, invertase and diastase. Honey is filtered to remove wax and other ingredients from outside to make it pure. Honey is being used for generation for various ailments in Ayurvedic therapy for systemic diseases as well local application as necessary.

Phillips (1933) and Voiglander (1937) mentioned Honey use in burn patients and described as best natural dressings proved scientifically.

Many prospective studies had been done proving better results with Honey dressings.

ACTION OF HONEY –

Fructox, Sucrose, antioxidants, wide range of amino acids, vitamins and minerals work singularly or in combination to give anti-infective properties, killing organisms, smoothen the area and help in healing by regeneration of vessels and local tissues.

Glucose Oxidase produces Hydrogen peroxide and gluconic acid with pH of 3.2 to 4.5, to kill bacteria. Undiluted Honey improves local nutrition with laevulose and fructose and healing.

HOW TO USE HONEY –

- (1) Clean the wound with cold water and soap.
- (2) Honey can be poured on the surface uniformly and covered by thick sterilized pads.

OR

Gauze soaked in Honey can be applied and covered by cotton pads.

- Frequency – depending upon discharge/smell/patients uncomfot, it can be changed twice a day or once a day.

- After a week or more, when wound starts showing red granulation and healthy wound, with hardly any purulent discharge it can be changed once in two to three days to give time to healing.

In hospital various kinds of antibacterial ointment are available and used for dressing purposes.

In stage I - in minor burns of less than 15% any local application of ointment with systemic antibiotic and care to prevent local infection leads to its healing in 7 to 10 day time.

In Stage I and Stage II once acute phase in 7 days is over and patient in maintaining body homeostasis, local care and prevention of

infection is very important. Beside many antibacterial ointments, many other Home remedies been used for years with equally or better results. Honey and Alovera are two important remedies having anti-inflammatory properties and promote healing with inhibit bacterial growth properties.

In this project 40 patients of burn of I and II degrees of 20%-30% are taken in two groups, 20 patients each.

Group I- Systemic treatment to continue local dressings daily with Betadine lotion cleaning and apply silver sulphadiazine oint, dressed with sterilized cotton pads and bandage.

Group II – Systemic treatment to continue

- Wash with soap and water
- Apply Honey dressings all over the wound. Cover with sterilized cotton pads and bandage it.

The same process is continued for three weeks and results are noted weekly.

- Local care as above is done daily
- Antibiotics in both groups are same. Culture and sensitivity done every week from the surface wound discharge and noted – as –
 - Organism growth
 - Sensitivity to drugs

In both groups same frequency of change of dressings is followed and make daily record -

- General condition
- Temp / B.P.
- Condition of wound
 - Discharge
 - Slough (Extent of area)
 - Area of healing
 - Surrounding area condition of skin

7th Day – Pus for Culture and Sensitivity

(Both Groups) - Change Antibiotics as necessary

- Note change of culture in both groups and sensitivity character
- Take photographs of wound for comparison

After 3rd Week –

- Compare the two results
- Is Infection presenting – pus discharge present or not
- Compare Culture reports –
Regarding organism
- Percentage of healing with primary skin coverage, and healthy wound but showing good signs of healing
- Compare photographs
- In most of the studies the Honey dressings healing in faster and organism are absent after 7 to 10 days.
- Various enzymes produced do help in diluting inflammatory discharge killings organisms. Few enzymes are like tonic to healing tissues shows fast healing.
