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# DPT 8TH SESMESTER

**Q1:a 68 years old female with a history of diabetes type 2 presents with planter ulcer at the first metatarsal head of the right foot .patients also complains of losing balance while standing and walking .**

* **Ulcer shows sign of infection i.e. calluses and characteristic necrosis .**
* **Timed up and go test : 12 seconds , this is slower than age –adjusted norm .**
* **Patient reports longstanding history of type 2 diabetes.**

**Keeping in mind the staging of infection, give**

* **Complete management of the wound**
* **Physical therapy treatment if needed.**

# Wound

# Definition:

Any type of disruption of the normal structure of the skin because of which that part of the skin lose its normal function and skin architecture is called wound.

**Wound healing phases**

Phase 1 : hemostasis phase

Phase 2 :defensive /inflammatory phase

Phase 3:proliferative phase

Phase4:maturation phase

**Principles of wound management**

The basic principles of wound management are as follow :

* Haemostasis
* cleaning the wound
* analgesia
* skin closure
* dressing and follow up advice

1. **HAEMOSTASIS** : is the process that causes bleeding to stope.
2. Cleaning the wound : wound cleaning is important for reducing infection and to promote healing process.
3. **Analgesia** : this process will allow for an easier closure of the wound.
4. **Skin closure** : the aid of wound healing , the edges of the wound can be manually exposed.
5. **Dressing the wound and follow up advice** : correct dressing of the wound will reduce infection and contamination .

# Diabetic foot

Uncontrolled diabetes or blood glucose level can cause damage to the nerves or blood vessels . this nerve damage can cause to lose the sensations in your feet, then you lose to feel a cut , blister or sore.

These injuries can cause ulcers and infections.

Serious cases can lead to even amputation .

To avoid foot problems .first keep maintain your blood sugar level ,good hygiene .

* Check your feet every day
* Wash your feet every day
* Keep the skin soft and smooth
* Smooth corns and calluses gently
* Wear shoes and socks all the time
* Protect your feet from hot and cold
* Keep the blood flowing to your feet

# Management of diabetic foot wound

There are some steps for the management of foot wound / ulcers in diabetic patients:

* Debridement
* Mechanical relief
* Taking pressure off your foot ulcer
* Wound care and dressing
* Antimicrobial therapy
* Metabolic management
* Amputation

Debridement : one way to treat ulcers is debridement . this treatment include removal of dead skin and tissue . podiatrist will do this to see your foot ulcer. There are many ways to do this . one way is the use of scalpel and special scissors .

* The skin that is surrounded by wound is cleaned and disinfected
* The wound is probed with an metal instrument to check how deep it is and to see if there is any foreign body or object present in the ulcer.
* The provider will remove the dead tissue , then wash out the ulcer.
* After this the sore may look bigger and deeper .the ulcer should be red or pink and look like fresh meat .
* Other ways the provider may use to remove dead or infected tissue are :
* Put your foot in a whirlpool bath
* Use a syringe and catheter to wash away dead tissue
* Apply wet to dry dressing to the area to full off dead tissue
* Put special chemicals , called enzymes , on your ulcer. These dissolve dead tissue from wound
* Put special type of maggots on the ulcer . the maggots eat only the dead part of the skin and produce some of the chemicals that will help to heal the ulcer.

Mechanical relief:total contact casting for redistribution of planter pressure

* Use of special removable boots
* The boots should be made up of fiber glass
* Lined by inflatable air cells

Taking pressure off your foot ulcer :foot ulcers are can also be caused by applying too much pressure on one part of your foot.

* Your provider may suggests to wear some special shoes
* You may need to use wheel chair or crutches until the ulcer get healed.these devices will help to release the pressure on your foot the ulcer area ,this will speedup the healing process .
* Wear shoes made of canvas , leather
* Don’t wear shoes made of plastic or other material
* Wear easily adjustable shoes
* Wear shoes that are not to tight
* Don’t wear shoes with pointed or open toes such as high heels, flip-flop or sandals.

Wound care and dressing :care for your wounds as instructed by your provider .you will be told that :

* Keep your blood sugar level under control .this helps to heal faster and help to increase healing strength and to fight infections
* Keep the ulcer clean and bandaged
* Cleanse the wound daily by using a wound dressing or bandage
* Try to reduce the pressure on the healing ulcer
* Your provider may use different types of dressing to treat you:
* Dressing that contains medicins
* Skin substitutes.
* Antimicrobial therapy : initial treatment of infected foot should be with broad spectrum antibiotics followed by swab results.
* Patient treated as an out patient
* Amoxicillin – clavunate/erythromycin if allergic to pencillins
* Moderate cellulitis inj. Ceftriaxone 1 gm. Daily
* Neuropathic/ neuroischemic foot with sever cellulitis
* Surgical intervention to be sought
* i/v antibiotics ,ceftroxone/metronidazole
* according to swab results
* deep swab to be taken after initial debridement ,positive culture antibiotic accordingly to sensitivity
* weekly follow up

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metabolic managemen

* metabolic management t include control of hyperglycemia , hyperlipidemia and hypertension
* also need to stop smoking to reduce the microvascular and macrovascular injury .

vascular intervention :

* done with the peripheral vascular disease of the patient
* antiplatelet therapy by aspirin
* angioplasty in short vessel occlusion less than 10 cm
* widespread disease ,arterial bypass

## amputation :

* amputation is preventable because taking good care of foot can save legs
* wash feet daily with warm water and dry them especially between toes diabetics tend to get dry feet especially in winters
* not to walk bare feet
* toe nails to be cut straight and filled smooth
* inspect their feet daily if cannot reach use a hand mirror

# physical therapy for diabetic foot ulcer

physical therapist are also involved the prevention and management of diabetic foot complications.in physical therapy the management is done by gait , posture and foot – off – loading education and training .

type 2 diabetes can occur often in children and adults due to obesity and prolong setting or sedentary lifestyle . physical therapist can utilize exercise programs as an effective treatment for patients with type 2 diabetes and it has been proven that regular exercise or physical activity is important to in sustaining low blood sugar level and improving insulin sensitivity .

* patient education :on discussion with the patients , they had often forgotten foot care advice , said they hadn’t received any advice or thought it didn’t apply to them
* therefore we started to teach them basic principles of foot care and also advised for foot wear
* education on foot care and foot wear and allowing the podiatrist to fully concentrate on the treatment of ulcers
* teaching safe use of walking aids in order to offload problem feet – including steps/stairs
* advising on adjustment to home environment as necessary
* teaching exercises to main strength , ROM, promote circulation in limbs.
* Gait re education
* Driving advice
* Work advice
* Equipment ordered

**Q2.create a clinical scenario of your own targeting acute cholecystitis along with its clinical presentation, investigation and management .Rule out the distinction points of chronic cholecystitis?**

Patient history

A 42 year – old female entered the emergency department suffering from sever right abdominal pain , nausea , vomiting and dehyderation. The patient was admitted into the hospital . an ultrasound of the abdomen was performed .no gallstones were found, prominent gallbladder wall thickening was present. Acute cholecystitis was of concern and nuclear medicine HIDA scan was ordered for further evaluation.

Clinical presentation :

* Clay – colored stool
* Vomiting
* Nausea
* Fever
* Pale skin
* Pain
* Chills
* Abdominal bloating
* Jaundice
* Feel discomfort

# Investigation

Abdominal ultrasound

Hepatobiliray scintigraphy : is a procedure that create an image of the upper portion of your small intestine, liver , gallbladder and bile ducts.

Cholangiography :use dye injected into your bile duct to show the gallbladder and bile ducts on an x-ray.

CT scan

# Management of cholecystitis :

* Sever abdominal pain may need immediate treatment .
* You may give intravenous I/V fluids for dehyderation
* Your physician may prescribed pain medications and antibiotics to reduce your pain and fight infection
* Your doctor may recommend surgery to remove your gallbladder if the cholecystitis keeps recurring .this is called cholecystectomy,which can be done laproscopically or through open surgery.