Dermatology SBA Questions

Questions were made by students on behalf of The Peer Teaching Society. We hope there are no mistakes but are not liable for any false or misleading information.

1. Simon, a 16-year-old boy comes to see you with multiple erythematous comedones on his forehead, cheeks and chest. There are no nodules and cysts in these areas. You diagnose him with moderate acne vulgaris.

   What is the first line treatment you would give him?

   a) Topical Benzoyl peroxide
   b) Topical erythromycin
   c) Oral erythromycin
   d) Oral tetracycline
   e) Oral isotretinoin

2. Anna, a 53-year-old woman diagnosed with psoriasis 2 years ago presents to your clinic with pruritus. On examination you notice red and scaly plaques on the extensor surfaces of her elbow and knees. Her joints are not affected. She has been using an emollient but this doesn't seem to be helping with the plaques anymore. She doesn't smoke or drink alcohol and has been trying to reduce her stress.

   What is the most appropriate first line treatment for her?

   a) UV light therapy
   b) Methotrexate
   c) Biological immunotherapy (e.g. ustekinumab)
   d) NSAIDs
   e) Steroid cream + vitamin D analogue

3. Which of these is not a common symptom of women with breast cancer?

   a) Palpable mass
   b) Dimpling of the breast
   c) Inversion of the nipple
   d) Axillary lymphadenopathy
   e) Cervical lymphadenopathy

4. A 58-year-old man with T2DM presents to you with a 3-day history of red, swollen and painful erythematous patch on the posterolateral aspect of his calf. This irregular-shaped patch has been increasing in size and on palpation is hot and tender to touch. He has a fever of 38.1˚C.

   Bloods and cultures are taken and reveal his white cell count is 19.8 and his neutrophil count is 13.5.
   Normal WBC: 4.5 – 11
   Normal Neutrophil count for males: 2.0 -7.5

   Based on your diagnosis, what is the most likely causative organism?

   a) Staphylococcus saprophyticus
   b) Streptococcus pneumoniae
   c) Klebsiella pneumoniae
   d) Streptococcus pyogenes
   e) Escherichia coli

5. A 10-year-old child is brought into the GP by their parent. The child has had a previous diagnosis of eczema which has been controlled via emollient therapy, however the parent explains that the child's skin is inflamed, and the emollient is ineffective.

   What is the first line medication you would prescribe for the child?

   a) Fluocinonide
   b) Clobetasol propionate
   c) Tacrolimus ointment
   d) Hydrocortisone cream
   e) Oral tetracycline

6. A 65-year-old diabetic patient comes into the GP clinic for a regular check-up. On examination you notice a sore on the ball of their right foot, surrounded by a callus. The skin around it is warm and peripheral pulses are present.

   What first line treatment do you believe will be best for this patient?

   a) Ibuprofen or other form of analgesia
   b) Compression bandaging
   c) Antibiotics
   d) Reduce pressure from affected area
   e) Amputation

7. A patient resents with a lesion on the outer side of their ankle and one between their toes. It has a punched-out appearance. The foot has weak pulses and is hairless.

   What is the most likely type of ulcer?

   a) Arterial
   b) Venous
   c) Malignancy
   d) Neurogenic
   e) Traumatic

8. A patient presents in A&E in severe pain with a fever and a red, warm, swollen area of skin. The paramedic explains that the patient had been carrying out garden work with sharp tools earlier on in the day. When questioning the patient, they say they are experiencing pain beyond the affected area and have vomited several times. On examination the swelling is firm to the touch and fluid filled blisters are appearing on the affected area. They do not have any other pre-existing conditions and are generally healthy.

   What bacteria is most likely the cause?

   a) Streptococcus viridans
   b) Staphylococcus aureus
   c) Staphylococcus epidermis
   d) Streptococcus pyogenes
   e) Klebsiella pneumoniae

Dermatology SBA Answers

Question	Answers
1. A	Mild to moderate acne is usually treated with topical preparations. Systemic treatment with oral antibacterials is generally used for moderate to severe acne or when topical preparations are not tolerated/ineffective. Topical/oral erythromycin or clindamycin should only be used if non-antibiotic antimicrobials (e.g. benzoyl perox azelaic acid) aren't effective to try and avoid developing resistance. Systemic antibacterial (e.g. oral tetracycline) treatment is useful for inflammatory acne if topical treatment is ineffective/contraindicated, so is not first line. Oral retinoid is used for the systemic treatment of severe acne. It's teratogenic so do NOT give to women of child bearing age if they are having unprotected sex.
2. E	Anna is already using an emollient, the next step would be to add a topical steroid (e.g. hydrocortisone) and a vit analogue (e.g. calcitriol). If the psoriasis still did not respond, you would then refer Anna to dermatology where they might consider phototherapy, or oral drugs (e.g. methotrexate, cyclosporin). If these were ineffective, biological immunotherapy be considered https://cks.nice.org.uk/topics/psoriasis/management/trunk-limbs/#topical-drug-treatment . NSAIDs might actually aggravate psoriasis so you definitely wouldn't give it to treat it! Psoriasis is a common chronic inflammatory skin condition characterized by the presence of ill-defined, erythem plaques with silvery scales. Classically present on extensor surfaces (i.e. elbows, knees, scalp and sacrum) but ca affect the nails and scalp. Patients can also develop arthropathy (5 types of joint involvement: asymmetrical oligoarthritis, arthropathy of the DIPJs, rheumatoid-like sero-negative symmetrical polyarthritis, ar mutilans and psoriatic spondylitis). It's also associated with an increased risk of cardiovascular disease.
3. E	Breast cancer is associated with axillary lymphadenopathy, NOT cervical lymphadenopathy. All the other sympto commonly seen in breast cancer.
4. D	**Streptococcus pyogenes** is the most common cause of cellulitis (2/3 of cases) while Staphylococcus aureus is the second most common cause. Cellulitis is a common bacterial infection of the lower dermis and subcutaneous tissue which results in the typica presentation illustrated in this case. This patient presented with classical features of cellulitis such as: a localised of red, painful, swollen skin with systemic symptoms. You can also get "peau d'orange" (a.k.a. dimpled skin). Risk factors include: Diabetes, obesity, injury, immunodeficiency (e.g. HIV). *Note: although the painful red and swollen calf might sound like DVT, the fact that their WBC and neutrophil co were high and that they are pyrexic pointed away from this differential diagnosis.* Staphylococcus saprophyticus, Klebsiella pyogenes and E.coli can all cause lower tract urinary infections. E.coli is most common cause out of all of them. Streptococcus Pneumonia is the most common cause of pneumonia. https://dermnetnz.org/topics/cellulitis/#:~:text=What%20causes%20cellulitis%3F,wound%20of%20foot%20or%
5. D	The first line treatment is topical corticosteroids. Hydrocortisone, fluocinonide and clobetasol propionate are all corticosteroids but of varying classification. Mild: Hydrocortisone Moderate: Clobetasol Butyrate Potent: Fluocinonide

	Very potent: Clobetasol propionate Prescription medication will start with the mildest (hydrocortisone) and will then be increased if required to mor potent treatments. Tacrolimus ointment is a topical calcineurin inhibitor which is a second line treatment for eczema.
6. D	The condition being described here is a neuropathic ulcer. As the patient is diabetic, the likelihood is they are experiencing peripheral neuropathy and therefore the ulcer on their foot is painless. This means option A of anal is not applicable. As the sore is most likely from pressure, trauma or a sharp object there is no need for antibiotic hence not option C. The correct way to treat a neuropathic ulcer is to keep the ulcer clean and remove pressure/ trauma from the affected area, to aid blood flow to allow the affected area to heal. Can then refer to a specialist podiatrist help. Compression bandaging is used to treat venous ulcers, hence will also not be used in this scenari
7. A	Arterial (ischaemic) ulcers are open sores that primarily develop on the outer side of your ankle, feet, toes and h Develop due to damage to the arteries due to lack of blood flow. Can take months to heal. Punched out appeara red/yellow/black sores, hairless skin, leg pain, no bleeding, affected area cool to touch. Treatment is improving circulation and antibiotics with potential surgery. Malignant ulcers are oval or circular in shape, with a raised edge and inverted floor. Floor is covered with necroti tumour, serum and blood. Regional lymph nodes are often enlarged. Often found in the face, lips and tongue. Neurogenic (diabetic) ulcers are commonly at the bottom of the foot on the pressure points. Typically have perip neuropathy with no sensation nearby. Size and shape are variable. The edge is punched out. Traumatic ulcers appear at the site of trauma and their size is variable. The edge is sloping. Venous ulcers are the most common type. Open wounds forming on the leg below the knee and on the inner are your ankle. Develop from damage to veins caused by insufficient blood flow back to the heart. Pain only comes f infection. Other symptoms include inflammation, swelling, itchy skin, scabbing, discharge. There is granulation p Treatment is improving circulation (compression therapy) and antibiotics. May never heal.
8. D	The diagnosis here is necrotising fasciitis and needs to be immediately acted on. It has two forms: ○ Is caused by a mixture of aerobic and anaerobic bacteria following abdominal surgery or in diabe ○ Is caused by group A beta-haemolytic streptococci e.g. Streptococcus Pyogenes, which is the mo common cause and arises in previously healthy patients. The garden work is relevant, as the bacteria usually enters the body through a break in the skin, which may have acquired on the sharp garden tools.

Authors – Chloe Huvenne, Joe Rona

Editor – Chris Salmon csalmon3@sheffield.ac.uk