

Question Set: *Breast and Skin*

Questions

1. A 15-year-old girl develops short gut syndrome following resection of bowel secondary to leiomyosarcoma in the small intestinal wall. She is subsequently placed on long-term total parenteral nutrition (TPN) and is recovering well. A month later, she develops red and inflamed patches of dry and scaly skin around her mouth and eyes. Her hair also begins to thin, and she notices a bad taste when she gets her daily cherry-flavored Chloraseptic spray to prevent dry throat. What is the most likely underlying etiology of her skin lesions and thinning hair?
- (A) Zinc deficiency
 - (B) Copper deficiency
 - (C) Pemphigus vulgaris
 - (D) Chromium deficiency
 - (E) Psoriasis
2. Which of the following would be best suited for Mohs surgery?
- (A) Superficial spreading melanoma in the arm
 - (B) Nodular melanoma on the back
 - (C) Basal cell carcinoma on the face
 - (D) Subungual melanoma
 - (E) Squamous cell carcinoma of the neck
3. A 36-year-old woman is evaluated for a lump in her right breast that she noticed 5 months ago. She denies any nipple discharge, retraction, or skin changes. She has no family history of breast cancer. On physical exam, the breasts appear normal. Palpation reveals a 1 cm dominant lump in the left upper quadrant of the right breast that does not appear to be fixed to the surrounding structures. The patient has no other dominant masses in either breast. There is no axillary lymphadenopathy. Mammogram is negative. What is the next step in the management?
- (A) Ultrasound-guided core needle biopsy
 - (B) Fine-needle aspiration (FNA)
 - (C) MRI
 - (D) Follow-up clinical breast exam in 3 months
 - (E) Genetic testing
4. A 31-year-old breastfeeding female comes to the doctor for localized swelling, redness, and pain of the left breast. She also reports muscle aches and fatigue. On physical exam her temperature is 38.0 °C, pulse is 82/min, blood pressure is 126/68 mmHg, and respirations are 16/min. Physical exam reveals a localized area of erythema and warmth in the left breast with no palpable masses. There is no axillary lymphadenopathy. What is the most likely next course of action?
- (A) Biopsy
 - (B) Antibiotic treatment and continue breastfeeding
 - (C) Antibiotic treatment and encourage bottle-feeding only
 - (D) Diagnostic mammography
 - (E) Incision and drainage

5. A 33-year-old female of Scottish descent presents with a nodule on her face near the corner of her eye. The lesion measures 13 mm in diameter. The borders are irregular, and the center of the lesion is dark. Which of the following is the best recommendation?
- (A) Shave biopsy
 - (B) Punch biopsy
 - (C) Excisional biopsy with 1 mm margin
 - (D) Excisional biopsy with 5 mm margin
 - (E) Reexamination in 2 months
6. A 71-year-old woman is evaluated for a lump in her right breast that she noticed 3 weeks ago. She denies any nipple discharge, retraction, or skin changes. She has a sister diagnosed with breast cancer at the age of 57. The patient had menarche at the age of 9 and menopause at the age of 56. She had two children, one at the age of 39 and the other at the age of 41. On physical exam, the breasts are normal on inspection. Palpation reveals a 1.5 cm dominant lump that does not appear to be fixed to the surrounding structures. The patient has no other dominant masses in either breast. There is no axillary lymphadenopathy. What is the strongest risk factor in this patient predisposing her to breast cancer?
- (A) Early menarche
 - (B) Family history of breast cancer
 - (C) Older age
 - (D) Age at first pregnancy
 - (E) Late menopause
7. A 50-year-old woman comes to the clinic to discuss treatment for a new diagnosis of breast cancer. Her annual screening mammogram revealed a 1.3 cm mass in the right breast. The patient does not have any other breast masses, skin changes, nipple discharge, or axillary adenopathy. Mammography revealed no other suspicious calcifications within the breast. Biopsy of the mass was performed and revealed infiltrating ductal carcinoma. Estrogen receptor, progesterone receptor, and HER2/neu receptor testing were negative. Which of the following is the best option for the management of this patient's breast cancer?
- (A) Lumpectomy and breast irradiation
 - (B) Lumpectomy and hormone therapy
 - (C) Lumpectomy and chemotherapy
 - (D) Lumpectomy, sentinel node biopsy, and breast irradiation
 - (E) Lumpectomy, sentinel node biopsy, breast irradiation, and chemotherapy
8. A 65-year-old woman presents to her family physician with a pruritic, erythematous, ulcerated rash surrounding the areola of her right breast. She recently started a new medication, hydrochlorothiazide, for hypertension. She is prescribed hydrocortisone 1% ointment, but the lesion persists 3 months later. She has no history of skin diseases in the family. She takes warfarin for atrial fibrillation. Otherwise, she is healthy. What is the best next step in the management of this patient?
- (A) Punch biopsy of the skin lesion
 - (B) Change hydrocortisone 1% to triamcinolone to treat eczema
 - (C) Treatment with antibiotics
 - (D) Oral steroid course to treat psoriasis
 - (E) Increase the dose of hydrocortisone
9. A 64-year-old man who emigrated from Japan arrives to his doctor to discuss new skin lesions. His wife first noticed two discolored plaques on his back 2 weeks ago, but he now has multiple lesions all over his back, chest, and face. They are the size of a coin and appear to have a "stuck-on" appearance. He is afebrile, blood pressure is 136/86 mmHg, and he has a pulse of 90/min. The skin lesions do not itch, and they



- are not tender. He has no other complaints, and a review of systems is negative. He is more concerned about his cosmetic appearance. What is the best next step in management?
- (A) Reexamine in 2 weeks
 - (B) Skin biopsy
 - (C) Abdominal CT scan
 - (D) Mohs procedure
 - (E) Corticosteroids
10. A 45-year-old female undergoes screening mammography which demonstrates an area of suspicious microscopic calcification in her right upper outer breast. Stereotactic-guided biopsy confirms ductal carcinoma in situ (DCIS). Which of the following is true about this condition?
- (A) It should be excised to a negative margin.
 - (B) It is considered a marker for malignancy in either breast.
 - (C) The cribriform type has a worse prognosis than the comedo type.
 - (D) It does not occur in men.
 - (E) Radiation therapy is an acceptable alternative to surgical excision.
11. A 30-year-old female presents with bloody discharge from her left breast that she has noticed intermittently for the past month. She denies any palpable breast mass, weight loss, fevers, or night sweats. She has no medical history or family history of breast cancer. The skin around the breast and areola are normal with no rashes or lesions. No breast mass is palpable, and there is no axillary lymphadenopathy. Ultrasound did not reveal any masses. What is the most likely diagnosis?
- (A) Fibrocystic changes
 - (B) Intraductal papilloma
 - (C) Ductal carcinoma in situ (DCIS)
 - (D) Paget's disease of the breast
 - (E) Infiltrating ductal carcinoma
12. A 61-year-old female presents with swelling and redness of her entire left breast that has persisted for 4 weeks. On physical exam her temperature is 37.6 °C, pulse is 82/min, blood pressure is 136/78 mmHg, and respirations are 16/min. Her left breast appears larger than her right one. The entire breast is warm, and the skin is edematous. No breast masses are palpable. There is no nipple discharge or rashes. There are several palpable enlarged lymph nodes in her left axilla. Ultrasound and mammography show thickening of the skin but otherwise no masses. Which of the following is the best option for further management?
- (A) Punch biopsy of skin
 - (B) Oral antibiotics
 - (C) Intravenous antibiotics
 - (D) Nonsteroidal anti-inflammatory drug (NSAID)
 - (E) Incision and drainage
13. A 17-year-old female presents with breast pain that she noticed for several months. She states that she feels multiple breast masses in both breasts. She denies any weight loss, fevers, or night sweats. She has no medical history or family history of breast cancer. The skin around the breast and areola are normal with no rashes or lesions. No solitary breast masses are palpable, but both breasts are lumpy and painful to palpation, most notably in the upper outer quadrants. There is no axillary lymphadenopathy. What is the most appropriate next step in management?
- (A) Diagnostic mammography
 - (B) Excisional biopsy
 - (C) Ultrasound-guided core needle biopsy
 - (D) Reassurance and reexamine in 1 month
 - (E) Fine-needle aspiration (FNA)

14. A 57-year-old woman comes to clinic to discuss surgical treatment for a new diagnosis of breast cancer. Her annual screening mammogram revealed a 1.7 cm mass in the right breast. Biopsy of the mass was performed and revealed infiltrating ductal carcinoma. Estrogen receptor and progesterone receptor testing were negative, while HER2 receptor testing was positive. In addition to lumpectomy and breast irradiation, the treating doctor decides to add hormonal therapy with trastuzumab to the treating regimen. What study must be done prior to starting trastuzumab?
- (A) Thyroid stimulating hormone (TSH)
 - (B) Liver function tests
 - (C) Echocardiogram
 - (D) Creatinine clearance
 - (E) Chest X-ray
15. A 25-year-old female lifeguard presents to her doctor to discuss a new 10 mm skin lesion that she found on her right forearm that has been growing over the last month. The lesion has a heterogeneous dark blue color, is symmetric, and has been growing vertically. What is the most likely diagnosis?
- (A) Impetigo
 - (B) Melanoma
 - (C) Nevus
 - (D) Molluscum contagiosum
 - (E) Squamous cell carcinoma
16. Where are melanomas in patients with dark skin most likely to occur?
- (A) Back
 - (B) Arms
 - (C) Legs
 - (D) Palms, soles, and mucous membrane
 - (E) Face
17. A 50-year-old field worker arrives to a free clinic to discuss a "sore" on his lower lip. He has had no trauma to the face. He reports that he first noticed the "sore" 6 months ago, and it has slowly gotten bigger. On physical exam, he has an ulcerated 1 cm nodule on his lower lip. There are no telangiectasias present. What is the most likely diagnosis?
- (A) Basal cell carcinoma
 - (B) Squamous cell carcinoma
 - (C) Lichen planus
 - (D) Dermatitis herpetiformis
 - (E) Melanoma
18. Which of the following melanomas have the best prognosis?
- (A) Superficial spreading
 - (B) Nodular
 - (C) Lentigo maligna
 - (D) Acral lentiginous
 - (E) Subungual
19. Which of the following melanomas do not follow the ABCDE mnemonic?
- (A) Superficial spreading
 - (B) Nodular
 - (C) Amelanotic
 - (D) Acral lentiginous
 - (E) Amelanotic and nodular

20. Which of the following is the most common precancerous skin lesion?
- (A) Actinic keratosis
 - (B) Seborrheic dermatitis
 - (C) Seborrheic keratosis
 - (D) Compound nevi
 - (E) Keratoacanthoma
21. A 45-year-old female presents with a recent change in a preexisting mole on her anterior thigh. She states that the mole keeps bleeding, is darker, and has grown. The mole is 8 mm in diameter on physical exam. There are no palpable nodes in the groin. An excisional biopsy is performed with a 1 mm margin and to a depth of the subcutaneous fat. Pathology reveals a melanoma that is 0.8 mm in thickness with ulceration. The margins are negative. What is the next step in the management?
- (A) No further treatment
 - (B) Re-excision with 1 cm margins
 - (C) Re-excision with 1 cm margins and sentinel lymph node biopsy (SLNB)
 - (D) Granulocyte-macrophage colony-stimulating factor (GM-CSF)
 - (E) Interferon alpha

Answers

1. Answer A
Zinc deficiency can occur in surgical patients on long-term TPN or in patients diagnosed with a malabsorption syndrome. This can present with alopecia, red and inflamed patches of dry and scaly skin around the mouth and eyes, abnormal taste, and impaired wound healing. Zinc supplementation will remedy this condition. Copper and chromium deficiency are rare but can also affect this patient population. The most common manifestations of copper deficiency include hematologic abnormalities (anemia, leukopenia) and myeloneuropathy (B). Chromium deficiency presents with impaired glucose tolerance and peripheral neuropathy (D). Pemphigus vulgaris occurs as a result of autoimmune destruction of desmosomes between keratinocytes and is characterized by multiple skin and oral mucosa bullae (C). Psoriasis is believed to have an autoimmune etiology and presents as salmon-colored plaques with a silvery scale that occur on extensor surfaces (e.g., patella) (E).
2. Answer C
Mohs is a specialized tissue-sparing technique of treating skin cancer in which the tumor is removed in a series of thin layers as opposed to one wide excision. The advantage is that it prevents excising excessive normal tissue and allows for immediate confirmation of negative surgical margins intraoperatively. It is best suited for basal cell and squamous cell carcinoma in cosmetically sensitive areas such as the face. Mohs is not generally recommended for melanoma. This is because it is difficult to distinguish the normal skin from melanoma on frozen section (immunohistochemical stains are sometimes needed). Because of this, Mohs is considered by most surgeons to be an unreliable method of resection for melanoma (A, B, D). The treatment of choice for subungual melanoma is digital amputation.
3. Answer A
A diagnostic mammogram should be ordered in a woman over the age of 30 who presents with a new breast mass. Mammography helps to look for suspicious calcifications in other areas of the affected breast, characterize the mass, as well as evaluate the contralateral breast. It is important to note that the mammogram may be normal despite the presence of a palpable breast cancer. For this reason, a tissue biopsy is recommended for palpable breast masses regardless of the mammogram results. In a

palpable nodule, tissue sampling is best performed via ultrasound-guided core needle biopsy. Ultrasound also provides more information about the mass (cystic vs. solid). FNA is rarely used as it provides only cytology rather than histology (B). MRI would be a useful adjunct in patients with high risk of breast cancer (e.g., BRCA-1) (C). Follow-up examination in 3 months without a biopsy to rule out a malignant lesion would be inappropriate (D). Genetic testing would be indicated if this patient had a strong family history of breast or ovarian cancer but would not be done until tissue diagnosis of breast cancer is confirmed (E).

✓ 4. Answer B

The patient most likely has *mastitis*. This is a localized, painful inflammation of the breast accompanied by fever and malaise usually occurring in breastfeeding women but can affect non-lactating women as well. The diagnosis of mastitis is made clinically based on an erythematous, tender, swollen area of one breast associated with fever. Although this occurs most commonly in nursing mothers, it can also occur in non-nursing women. Other symptoms may include muscle pain (myalgias) and malaise. Transmission occurs via introduction of bacteria in small breaks in the skin caused by the trauma of breastfeeding. Most cases of lactation mastitis are a result of an infection by *Staphylococcus aureus*. Treatment consists of antibiotics to cover skin flora, symptomatic relief with analgesics including anti-inflammatory agents such as ibuprofen, and cold compresses to reduce local pain and swelling. Patients should be encouraged to continue breastfeeding as this helps relieve any ductal obstruction that might be contributing to the infection (C). The breast milk in a woman with mastitis is *not* dangerous to the baby. Biopsy would be appropriate if the patient has suspected inflammatory breast carcinoma (A). Although very rare, inflammatory breast carcinoma can occur during pregnancy. If mastitis fails to resolve after antibiotics, then consideration should be given to performing a biopsy of the skin. At that time, diagnostic mammography should also be ordered (D). Incision and drainage are appropriate if there was evidence of a localized abscess with fluctuance, although more breast surgeons are now recommending needle aspiration to reduce scarring (E). Ultrasound can help differentiate mastitis from a breast abscess.

✓ 5. Answer B

The lesion is concerning for melanoma and as such will require tissue confirmation to rule out cancer. Excisional biopsy (removing the entire lesion), down to the subcutaneous fat, would be the preferred approach for a lesion on an extremity or torso (C). However, depending on the size of the lesion and its location (not desirable to make a cosmetically unappealing large incision if the lesion ends up being benign), an initial incisional biopsy (taking only a small sample) is preferred. Punch biopsy down through the dermis (to calculate Breslow thickness) is the preferred method in this setting. Shave biopsies are not recommended if melanoma is suspected as the true Breslow thickness may not be measurable (A). During the initial biopsy, no attempts are made to achieve a wide margin. If the pathology comes back benign, no further treatment may be necessary. Excisional biopsy with a 5 mm initial margin would not be indicated as the lesion may be benign (D). Reexamination is not appropriate for a patient suspected of having melanoma (E).

✓ 6. Answer C

The most important risk factors for breast cancer are female gender, increasing age, and a family history of premenopausal breast cancer. A new breast mass in a woman over the age of 50 should be considered cancer until proven otherwise, as it carries the highest relative risk of being cancer. A family history of breast cancer can also significantly increase the risk of breast cancer, particularly if diagnosed in a premenopausal woman (B). The majority of inherited breast cancers are associated with BRCA-1 or BRCA-2 gene mutations. Other important risk factors associated with a slightly higher risk of developing breast cancer include early menarche, nulliparity or older age at first full-term pregnancy, and/or late menopause (A, D–E). Increased lifelong exposure to estrogen is common among these risk factors.



- ✓ 7. Answer E
Understanding when to offer surgery, radiation, chemotherapy, hormone therapy, tamoxifen, or SLNB to a breast cancer patient is important, and variations of this question will undoubtedly show up on the surgical shelf exam. There is a formula to answering these questions. First, this patient is diagnosed with infiltrating ductal carcinoma and so should be offered total mastectomy or breast conserving therapy, which consists of lumpectomy *and* radiation. Most elect the latter because it provides better cosmesis. Since this patient has an invasive carcinoma >1 cm, a SLNB is also indicated. If she had DCIS, a SLNB would only be indicated if the lesion was high risk (>5 cm, comedo type, or high grade). Additionally, if she was undergoing total mastectomy (for any size invasive carcinoma or DCIS), a SLNB should be performed as it would *not be possible* to do so at a later time. Hormone receptor (ER/PR)-negative breast cancers are thought to have a worse prognosis as adjuvant hormone therapy is not available. As such, these patients should receive chemotherapy. Similarly, triple-negative breast cancers have an even worse prognosis, and so chemotherapy should be given to these patients as well. Tamoxifen (HER2 receptor blocker) is indicated in patients with HER2-positive breast cancer. In the case of ER/PR-negative but HER2-positive breast cancers, chemotherapy and tamoxifen should be given.
- ✓ 8. Answer A
The presentation is concerning for Paget's disease of the breast. This presents as an eczematous, scaling, and ulcerating lesion around the areola. Paget's disease of the breast is a type of DCIS that extends into the ducts to involve the skin of the nipple. Patients are initially misdiagnosed with a skin condition, including eczema and psoriasis, and receive a variety of ointments that do not resolve the lesion. Paget's disease of the breast is almost always associated with an underlying carcinoma and must be diagnosed via biopsy of the lesion. Trying different regimens of steroids and antibiotics is inappropriate given the high likelihood that she has cancer (B–E).
- ✓ 9. Answer C
The skin lesions described are most likely to be seborrheic keratosis (SK). Isolated SKs occur commonly in the elderly. Sudden onset of multiple SKs (*Leser-Trelat sign*) suggests an underlying carcinoma of the gastrointestinal tract, most often gastric cancer. It is considered to be a result of a paraneoplastic syndrome associated with the cancer. The best next step in working up a suspected GI malignancy is an abdominal CT scan. Given the high likelihood of malignancy, it would be inappropriate to only reexamine the patient in 2 weeks (A). SKs have a characteristic appearance and typically do not need to be confirmed with a skin biopsy (B). Mohs is a specialized tissue-sparing procedure for treating skin cancer (D). It involves tangential excisions of the lesion until margins are negative. Mohs has the advantage in that definitive excision and closure can be achieved on the same day. Corticosteroids are not used in the management of SKs (E).
- ✓ 10. Answer A
DCIS is characterized by malignant epithelial cells within the mammary ductal system, without invasion into the surrounding stroma. Comedo-type DCIS is high grade and associated with a worse prognosis (C). DCIS lesions have a high risk of subsequent invasive carcinoma at the site of the DCIS. As such if left unresected, it will often progress to invasive ductal cancer. Thus, the mainstay of DCIS treatment is breast-conserving therapy (excision of entire lesion with negative margins and radiation). Radiation therapy is used in combination with surgical excision but cannot replace it (E). Lobular carcinoma in situ is considered a marker for malignancy in either breast (B). Breast cancer in males is rare (1% of all breast cancers) with most cases identified as invasive ductal carcinoma. DCIS can occur in men but is even more rare, as DCIS most often presents as abnormal calcifications on mammogram (D).

✓ 11. Answer B

Although bloody nipple discharge should raise concern for cancer, intraductal papilloma is the most common cause of bloody nipple discharge. This is a benign breast tumor arising from the proliferation of mammary duct epithelium that classically occurs in females 20–40 years of age. Treatment includes excision, which is diagnostic as well as curative. Fibrocystic changes are a common cause of breast pain in young females but do not present with bloody discharge (A). Patients report painful breast tissue before menses with improvement during menstruation. Physical exam reveals fibrotic tissue and cystic, lumpy tissue. DCIS and infiltrating ductal carcinoma are more common in older women (C, E). Although breast cancer can present with bloody nipple discharge, it is less common than intraductal papilloma, especially in a young woman. Paget's disease of the breast causes an eczematous lesion on the breast that is associated with an underlying breast carcinoma (D).

✓ 12. Answer A

The patient most likely has inflammatory breast carcinoma, an especially aggressive type of breast cancer. Inflammatory breast cancer can be easily confused with mastitis, as there is usually no palpable breast mass and ultrasound and mammography similarly are *often negative*. As such, it is imperative to perform a biopsy of the skin, which may show cancer cells invading the subdermal lymphatics. Additional workup should include a breast MRI (which is more likely to show the breast cancer in this setting than ultrasound and mammogram), as well as consideration for needle biopsy of the lymph nodes. Antibiotics or NSAIDs would be inappropriate in a patient with high suspicion for cancer (B–D). Incision and drainage would be appropriate if there was an indication on physical examination or evidence of a breast abscess on ultrasound (E). Inflammatory breast carcinoma typically presents as swelling of the breast and with edematous skin due to obstruction of subdermal lymphatics by tumor (termed *peau d'orange*, meaning orange peel in French). At presentation, positive lymph node involvement is frequent, and approximately 1/3 of patients have distant metastases. Inflammatory breast carcinoma can also present during pregnancy and should be suspected if suspected mastitis does not respond to appropriate antibiotic treatment.

✓ 13. Answer D

The history and physical exam are most consistent with a diagnosis of fibrocystic changes of the breast, which is considered a *normal variant* of the breast in adolescents and young adults. Patients will present with painful breast tissue before menses that improves during menstruation. On examination, fibrotic tissue may be palpated and is generally found in the upper outer quadrants of the breast. This patient should be counseled and instructed to look for these changes with a follow-up appointment in a month. Persistent cystic breast lesions can be evaluated and treated with FNA, although this is not needed in children and adolescents (E). Cystic lesions that resolve with aspiration should be reevaluated with ultrasonography 3 months after aspiration, but a core needle biopsy would not be indicated (C). Excisional biopsy is warranted for cystic lesions that do not resolve with aspiration or for suspicious solid lesions (B). Diagnostic mammography is not indicated for adolescents and should be reserved for females >30 years old who present with a breast mass (A).

✓ 14. Answer C

Trastuzumab is a monoclonal antibody that blocks the HER2 receptors. The medication is used in the treatment of HER2-positive breast cancers to help reduce recurrence and improve survival. Since there is a high risk of cardiomyopathy in patients receiving trastuzumab, it is recommended that all patients receive an echocardiogram prior to initiating therapy with trastuzumab. An alternative is to obtain a MUGA scan (multigated acquisition scan), which is a nuclear study that evaluates ventricular function with better fidelity. MUGA scan is considered superior to an echocardiogram but is not



widely available. Trastuzumab-related cardiotoxicity is most often manifested by an asymptomatic decrease in ejection fraction. The optimal surveillance for trastuzumab-related cardiotoxicity is not well defined. The remaining answer choices are not needed prior to starting trastuzumab (A–B, D–E).

- ✓ 15. Answer B
Nodular-variant melanomas grow vertically, not horizontally. They are usually a uniformly dark blue or black “berry-like” lesion that is mostly symmetric, elevated, and one color. Impetigo is a superficial bacterial infection oftentimes due to *Staphylococcus aureus*. It presents first as a flat macule and then a raised pustule that erodes and oozes a dry, honey-crusted serum (A). A nevus, or a mole, is described as a *small* (<6 mm) macule with sharp, symmetric borders, and an evenly distributed color (C). Molluscum contagiosum is caused by the *poxvirus* and occurs most commonly in children and immunocompromised adults (D). It is characterized by small, firm, pink, and umbilicated papules. Squamous cell carcinoma is a malignant proliferation of epithelial cells that presents as an ulcerated, nodular mass in sun-exposed areas (E).
- ✓ 16. Answer D
Melanocytes are found in equal numbers in most people (black or white). However, individuals with darker skin have melanocytes that produce more melanin, a protein which makes skin darker and helps protect from skin cancer by absorbing UV-B (B for bad) radiation. As such, in dark-skinned patients, melanomas are more likely to occur in areas that have less pigmentation such as the palms, soles, and mucous membranes (A–C, E). In general, men more commonly have melanoma on the back, while women more commonly have melanoma on the legs.
- ✓ 17. Answer B
The most common type of lip cancer is squamous cell carcinoma (SCC). Lip cancer occurs much more commonly on the lower lip, as it gets more sun exposure than the upper lip. Occupations that involve long-term sun exposure (e.g., lifeguard, farmer, construction worker, gardener, and field worker) place patients at higher risk for developing skin cancer. SCC is described as an ulcerated, nodular mass without any telangiectasias. Basal cell carcinoma presents as a pearly white nodule with a central ulcerated crater surrounded by dilated vessels (telangiectasias) (A). Lichen planus can be remembered as the “5 Ps:” pruritic, planar, polygonal, purple papules (C). It commonly involves the wrists and elbows and is associated with chronic hepatitis C infection. One of the manifestations of celiac disease includes dermatitis herpetiformis (D). It presents as pruritic vesicles and bullae that are grouped together (herpetiform). It only occurs in a minority of celiac patients and typically resolves with a gluten-free diet. Melanoma presents as a mole-like growth and follows the ABCDE rule (E).
- ✓ 18. Answer C
Lentigo maligna has the best prognosis of the melanoma subtypes (remember, lentigo is least aggressive). Nodular-variant melanomas are characterized by the absence of a radial growth phase. They are usually a uniformly dark blue or black “berry-like” lesion that is mostly symmetric, elevated, and one color. They are considered to be the most rapidly growing and aggressive variant of malignant melanoma (B). Typically, it arises on apparently normal skin (the head, trunk, and neck are the most common locations) vs. preexisting lesion. Ulceration is common, giving a poorer prognosis. Superficial spreading is the most common type of melanoma (A). It typically has a long horizontal growth phase before the vertical growth phase which confers a better prognosis. Acral lentiginous melanomas are typically found in the subungual, sole or palm location, and common in ethnic groups of color (D–E). Subungual tend to present late as they are often confused with a subungual hematoma.

✓ 19. Answer E

Amelanotic and nodular melanomas do not follow the ABCDE rule (A–D). As previously mentioned, nodular-variant melanomas are characterized by the absence of a radial growth phase. Amelanotic melanomas are notoriously difficult to identify because this variant is deficient in pigment or is unable to produce any pigment at all. For this reason, they typically go unrecognized until the disease advances enough to locally invade the surrounding tissue. Superficial spreading is the most common type of melanoma. It typically has a long horizontal growth phase before the vertical growth phase which confers a better prognosis. Acral lentiginous melanomas are typically found in the subungual, sole or palm location, and common in ethnic groups of color.

✓ 20. Answer A

Actinic keratosis presents as a rough, scaly patch of the skin that can vary in color (pink, red, brown). It is the *most common precancerous skin lesion* and thus can progress to squamous cell carcinoma. Seborrheic dermatitis (cradle cap) is a self-limited condition that commonly affects infants and presents as a yellow, greasy plaque on the scalp (B). Seborrheic keratosis is a common tumor in the elderly and presents as raised, discolored plaques that appear coin-like, waxy, and with a “stuck-on” appearance (C). Both of these conditions are benign and *not considered to be precancerous*. Compound nevi are brown-black, well-circumscribed lesions that are <1 cm in diameter (D). They may be elevated and are frequently hairy, arising from the epidermal-dermal interface and from within the dermis. Malignant transformation is rare. Keratoacanthoma is a low-grade subtype of squamous cell carcinoma that can grow rapidly and become large in size (E). Most will spontaneously get better within a year, but removal with surgery is still recommended.

✓ 21. Answer C

Once the diagnosis of melanoma is established by punch or excisional biopsy, the area needs to be re-excised to obtain wider margins, and in select cases, SLNB is obtained (A). The extent of margins and need for SLNB are determined by tumor thickness. Patients with tumor thickness < 1 mm (considered a thin melanoma) require an excision margin of only 1 cm. Additionally, for tumors <1 mm with ulceration, a SLNB is also performed (B). For melanomas that are thin with no ulceration, SLNB is not performed. Interferon alpha, GM-CSF, and dacarbazine are all adjuvant therapy options for patients with melanoma (D–E). There has been no concrete evidence that adjuvant therapy prolongs survival in melanoma. However, there is some evidence to suggest that there is an improved relapse-free survival and overall survival with high-dose interferon alpha.