LOYOLA MEDICINE

We also treat the human spirit.®

MOC QUESTIONS

Loyola University Medical Center

Department of Dermatology

Chicago Dermatological Society

September 28, 2016

1. Which of the following is the proposed mechanism of minocycline in preventing hypertrophic scars?

a. Increasing matrix metalloproteinase activity
b. Decreasing matrix metalloproteinase activity
c. Increasing fibroblast growth factor
d. Decreasing fibroblast growth factor
e. Increasing transforming growth factor beta 1

Which of the following is the proposed mechanism of minocycline in preventing hypertrophic scars?

LOYOLA MEDICINE

a. Increasing matrix metalloproteinase activity
b. Decreasing matrix metalloproteinase activity
c. Increasing fibroblast growth factor
d. Decreasing fibroblast growth factor
e. Increasing transforming growth factor beta 1

Minocycline is believed to prevent hypertrophic scar formation due to its anti-matrix metalloproteinase activity.

Henry SL, Concannon MJ, Kaplan PA et al. The inhibitory effect of minocycline on hypertrophic scarring. Plast Rectonstr Surg 2007 Jul; 120(1): 80-8.

2. What are the three most common forms of mucormycosis from most frequent to least?

a. Pulmonary > rhino-cerebral > cutaneous
b. Cutaneous > pulmonary > rhino-cerebral
c. Rhino-cerebral > gastrointestinal > cutaneous
d. Pulmonary > cutaneous > gastrointestinal
e. Cutaneous > gastrointestinal > rhino-cerebral

What are the three most common forms of mucormycosis from most frequent to least?

a. Pulmonary > rhino-cerebral > cutaneous

b. Cutaneous > pulmonary > rhino-cerebral

c. Rhino-cerebral > gastrointestinal > cutaneous

d. Pulmonary > cutaneous > gastrointestinal

e. Cutaneous > gastrointestinal > rhino-cerebral

Pulmonary mucormycosis is the most common form followed by rhino-cerebral and finally primary cutaneous mucormycosis.

Roden MM, Zaoutis TE, Buchanan WL, Knudsen TA, Sarkisova TA, Schaufele RL, et al. Epidemiology and outcome of zygomycosis: a review of 929 reported cases. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America. 2005;41(5):634–53.

Paduraru, M, Moren-Sanz, C, Gallardo, O. Primary cutaneous mucormycosis in an immunocompetent patient. BMJ case rep. 2016.doi:10.1136/bcr-2016-214982

3. Which of the following is not a proposed mechanism for the survival of affected males with Incontinentia Pigmenti?

LOYOLA MEDICINE

a. 47, XXY karyotype
b. Hypomorphic mutations
c. Klinefelter syndrome
d. Lyonization
e. Somatic mosaicism

Which of the following is not a proposed mechanism for the survival of affected males with Incontinentia Pigmenti?

LOYOLA MEDICINE

a. 47, XXY karyotype
b. Hypomorphic mutations
c. Klinefelter syndrome
d. Lyonization
e. Somatic mosaicism

Three proposed mechanisms for the survival of affected males include 47, XXY karyotype (Klinefelter syndrome), hypomorphic mutations, and somatic mosaicism.

Ardelean D, Pope E. Incontinentia pigmenti in boys: a series and review of the literature. Pediatr Dermtol. 2006;23:523-528.

4. Tumor formation in patients with hereditary leiomyomatosis and renal cell cancer is suspected to be caused by?

a. Increased intracellular fumarate
b. Decreased intracellular fumarate
c. Increased intracellular malate
d. Decreased intracellular malate
e. Increased intracellular succinate

Tumor formation in patients with hereditary leiomyomatosis and renal cell cancer is suspected to be caused by?

LOYOLA MEDICINE

a. **Increased intracellular fumarate**
b. Decreased intracellular fumarate
c. Increased intracellular malate
d. Decreased intracellular malate
e. Increased intracellular succinate

HLRCC is due to an inactivating mutation in the gene coding for fumarate hydratase, which normally catalyzes the conversion of fumarate to malate. An inactive enzyme leads to accumulation of fumarate and subsequent neoplastic growth.

Nagarajan P, Kenney B, Drost P, Galan A. An unusual case of sporadic hereditary leiomyomatosis and renal cell carcinoma syndrome. Cutis 2015;95:E7-9 .

5. All of the following statements are true except:

Congenital infantile fibrosarcoma

a. occurs most commonly in the first two years of life

b. tends to be more aggressive than the childhood subtype of fibrosarcoma

c. most commonly affects a distal extremity

d. often has a detectable ETV6-TRK3 gene rearrangement mutation

e. is rarely associated with distant or regional metastasis

All of the following statements are true except:

Congenital infantile fibrosarcoma

a. occurs most commonly in the first two years of life

b. tends to be more aggressive than the childhood subtype of fibrosarcoma

c. most commonly affects a distal extremity

d. often has a detectable ETV6-TRK3 gene rearrangement mutation

e. is rarely associated with distant or regional metastasis

Congenital infantile fibrosarcoma is less aggressive than the childhood subtype of fibrosarcoma which occurs in older children and adolescents.

Chung EB, Enzinger FM. Infantile fibrosarcoma. Cancer 1976;38:729-39.

LOYOLA MEDICINE

6. Which of the following diseases is not associated with pyoderma gangrenosum?

a. Seronegative arthritis
b. Acute generalized exanthematous pustulosis (AGEP)
c. Acute or chronic myelogenous leukemia
d. Hidradenitis suppurativa
e. Acne fulminans

LOYOLA MEDICINE

Which of the following diseases is not associated with pyoderma gangrenosum?

a. Seronegative arthritis

b. Acute generalized exanthematous pustulosis (AGEP)

c. Acute or chronic myelogenous leukemia

d. Hidradenitis suppurativa

e. Acne fulminans

Diseases associated with pyoderma gangrenosum include all of the above except for AGEP. PG can be associated with different conditions, notably inflammatory bowel diseases (20-30%), arthritis (20%) hematological malignancies and rheumatological disorders (25-35%), or can be idiopathic. It may precede, coexist or follow the different systemic diseases. PG may occur in the context of syndromes like PAPA (pyogenic arthritis, PG and acne) and SAPHO, as well as in the recently described entity named PASH (PG, acne and suppurative hidradenitis).

Bolognia, Jorrizo, Schafer. Dermatology, 3rd Ed. Esevier Saunders. 2012.

LOYOLA MEDICINE

7. Pellagra is caused by a dietary deficiency of:

a. Zinc
b. Folic acid
c. Vitamin A
d. Niacin
e. Vitamin C

Pellagra is caused by a dietary deficiency of:

a. Zinc
b. Folic acid
c. Vitamin A
d. Niacin
e. Vitamin C

Pellagra is caused by a dietary deficiency of niacin (vitamin B3).

Hegyi J, Schwartz RA, Hegyi V. Pellagra: dermatitis, dementia, and diarrhea. Int J Dermatol. 2004 Jan;43(1):1-5.

8. Which of the following diseases has been associated with hidradenitis suppurativa?

a. Acanthosis nigricans
b. Dowling-degos disease
c. Keratitis-ichthyosis-deafness syndrome
d. Pachyonychia congenita
e. All of the above

Which of the following diseases has been associated with hidradenitis suppurativa?

a. Acanthosis nigricans
b. Dowling-degos disease
c. Keratitis-ichthyosis-deafness syndrome
d. Pachyonychia congenita
e. All of the above

Acanthosis nigricans, dowling-degos disease, keratitis-ichthyosis-deafness syndrome, and pachyonychia congenita have all been associated with hidradenitis suppurativa in the literature.

Alikhan A, Lynch PJ, Eisen DB. Hidradenitis suppurativa: A comprehensive review. Journal of the American Academy of Dermatology;60:539-61.

9. Dasatinib and other tyrosine kinase inhibitor therapies may result in depigmentation due to their inhibitory effects on which proto-oncogene?

a. myc
b. c-kit
c. ras
d. WNT
e. p53

Dasatinib and other tyrosine kinase inhibitor therapies may result in depigmentation due to their inhibitory effects on which proto-oncogene?

LOYOLA MEDICINE

a. myc

b. c-kit

c. ras

d. WNT

e. p53

Dasatinib and other tyrosine kinase inhibitors inhibit c-kit, a proto-oncogene encoding a tyrosine kinase receptor expressed on melanocyte cell surfaces. C-kit plays a role in melanocyte survival and migration; thus, its blockade results in depigmentation.

Grichnik JM, Burch JA, Burchette J, et al. The SCF/KIT pathway plays a critical role in the control of normal human melanocyte homeostasis. J Invest Dermatol 1998; 111: 233-238.

Richards KA, Fukai K, Oiso N, et al. A novel KIT mutation results in piebaldism with progressive depigmentation. J Am Acad Dermatol 2001; 44: 288-292.

10. Acyclovir has been reported as an effective yet off-label treatment for pityriasis rosea. What is the FDA pregnancy category of acyclovir ?

a. A
b. B
c. C
d. D
e. X

.

Acyclovir has been reported as an effective yet off-label treatment for pityriasis rosea. What is the FDA pregnancy category of acyclovir ?

a. A

b. B

c. C

d. D

e. X

Acyclovir is FDA category B, which consists of either animal reproduction studies that have failed to demonstrate a risk to the fetus but have no corresponding human studies, OR animal studies that have shown adverse effects but have not been confirmed in controlled studies of women in any trimester

Chuy A, Zawar V, Sciallis G, Kempf W. A position statement on the management of patients with pityriasis rosea. J Eur Acad Dermatol Venereol. 2016 [epub ahead of print]. PMID 27406919

.

Thank you!

Please turn in your MOC Self-Assessment Evaluation form at the back of the room before you leave the session.