MINI MED 2012

CANCER: BASIC BIOLOGY AND THERAPEUTIC APPROACHES – AN UPDATE

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April 3

Introduction to Neoplasia

Gerald D. Abrams, M.D.

Neoplasia

• “Neoplasia is an abnormal new growth of tissue that grows by cellular proliferation more rapidly than normal, continues to grow after the stimuli that initiated the new growth cease, shows partial or complete lack of structural organization and functional coordination with the normal tissue, and usually forms a distinct mass of tissue which may be either benign or malignant.”

• Neoplasia as a Medical Subject Heading - Medical Subject Headings (MESH®), the National Library of Medicine’s controlled vocabulary used for indexing articles in Medline® which contains journal citations and abstracts for biomedical literature from around the world. http://www.nlm.nih.gov/cgi/mesh/2012/MB_cgi


April 10

Carcinogenesis: Basic Biology and Clinical Considerations

Eric R. Fearon, M.D.,Ph.D

• Definition of carcinogenesis from the National Cancer Institute

• The molecular biology of carcinogenesis.

• Cell Biology of Cancer http://training.seer.cancer.gov/disease/cancer/biology/

• Cell Biology and Cancer
• Clinical Considerations Cancer http://www.cape.ca/children/cancer7.html

April 17 
Screening for Cancer – Early Detection and Prevention
Dean E. Brenner, M.D.

• What Is Cancer Screening? From the National Cancer Institute http://www.cancer.gov/cancertopics/pdq/screening/overview/patient

• Types of Screening Tests. From the National Cancer Institute http://www.cancer.gov/cancertopics/screening/types

• Screening and Testing to Detect Other Types of Cancer. From the National Cancer Institute http://www.cancer.gov/cancertopics/screening/othercancers


• What to expect at a screening. A video from the American Academy of Dermatology http://www.aad.org/skin-conditions/skin-cancer-detection/what-to-expect-at-a-screening


• Cancer prevention: 7 tips to reduce your risk from Mayo Clinic http://www.mayoclinic.com/print/cancer-prevention/CA00024/METHOD=print

April 24 
Stem Cells and Cancer
Max S. Wicha, M.D.


• The Evolving Science of Cancer Stem Cells from the National Cancer Institute http://www.cancer.gov/ncicancerbulletin/072710/page4
• Cancer’s Stem Cell Revolution – Introduction from the University of Michigan Comprehensive Cancer Center [http://www.cancer.med.umich.edu/research/stemcells.shtml]

May 1  Treatment Modalities and Clinical Trials

Maha H. Hussain, M.D.

• Treatment modalities from Virginia Commonwealth University Massey Cancer Center [http://www.massey.vcu.edu/treatment-modalities.htm]

• Treatment of cancer from the World Health Organization [http://www.who.int/cancer/treatment/en/]

• Cancer Treatment Modalities from Quizlet [http://quizlet.com/6927272/cancer-treatment-modalities-flash-cards/]

• Introduction to Cancer Treatment from Virginia Cancer Institute [http://www.vacancer.com/newly-diagnosed/introduction-to-cancer-treatment/]

• Clinical Trials from the National Cancer Institute [http://www.cancer.gov/clinicaltrials]

May 8  Personalized Medicine – Using Genomic Information to Guide Therapy

Arul M. Chinnaiyan, M.D., Ph.D.

• What Is Personalized Medicine? From Duke University Health System [http://www.dukepersonalizedmedicine.org/what_is_personalized_medicine/]

• What is personalized medicine? From The Jackson Laboratory [http://genetichealth.jax.org/personalized-medicine/what-is/index.html]

• What is Personalized Medicine? An Outcome of the Human Genome Project [http://patients.about.com/od/yourdiagnosis/a/persmedicine.htm]

• What is Personalized Medicine? From Harvard Medical School [http://pcpgm.partners.org/about-us/PM]

• The Future of Personalized Medicine, From NIH Director Dr. Francis S. Collins [http://www.nlm.nih.gov/medlineplus/magazine/issues/winter10/articles/winter10pg2-3.html]

• Frequently Asked Questions About Genetic and Genomic Science from the National Human Genome Research Institute [http://www.genome.gov/19016904]

Cancer Genomics from the National Cancer Institute
http://www.cancer.gov/cancertopics/understandingcancer/cancergenomics/

Targeted Cancer Therapies from the National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Therapy/targeted

Gene Therapy for Cancer: Questions and Answers from the National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Therapy/gene

Books by Robert A. Weinberg, Ph.D. Founding Member, Whitehead Institute & Professor of Biology, MIT (intended for the lay audience):

- Racing to the Beginning of the Road: The Search for the Origin of Cancer by Robert A. Weinberg
  @ Amazon.com http://www.amazon.com/Racing-Beginning-Road-Search-Origin/dp/0716732831 or check your public library.

- One Renegade Cell: How Cancer Begins @ Amazon.com @ http://www.amazon.com/One-Renegade-Cell-Science-Masters/dp/0465072763 or check your public library.


Books from the American Cancer Society (check your public library):

- American Cancer Society complete guide to complementary & alternative cancer therapies (2009)
- American Cancer Society complete guide to nutrition for cancer survivors: eating well, staying well during and after cancer (2010) Grant, Barbara L./ Bloch, Abby S./ Hamilton, Kathryn K./ Thomson, Cynthia A., Ph.D.

Readings in Scientific American (Sci Am) (check your public library for access to these articles or you can get the full-text by visiting the Taubman Health Sciences Library and using the guest access on our computers. Contact Merle Rosenzweig @ oriley@umich.edu for instructions.):

causing proteins so difficult to target with drugs. Stockwell B. PMID: 22106796 [PubMed - indexed for MEDLINE]