Neoplasia

Odai AL-refai

- *Which of the following tumors can metastasize*
- *A. choristoma*
- *B. Adenoma*
- *C. fibroma*
- *D. Lipoma*
- *E. Melanoma*
- *ANSWER : E*

- *Grading of cancer is based on*
- *A. Differentiation*
- *B. Rate of growth*
- *C. Metastasis*
- *D. Spread to lymph nodes*
- *ANSWER: A*

- *Li-Fraumeni syndrome is related to which gene*
- *A. P16*
- *B. P53*
- *C. Rb*
- *D. BRCA1*
- *E. NF1*
- *ANSWER : B*

- *Not common tumor in children*
- *A. Leukemia*
- *B. Central nervous system tumors*
- *C. Teratoma*
- *D. Lymphomas*
- *E. Bone sarcoma*
- *ANSWER: C*

- *Teratoma is a cancer in*
- *A. Prostate*
- *B. Gonads*
- *C. Breast*
- *D. Synovium*
- *ANSWER : B (OVARY AND TESTIS)*

- *Leiomyosarcoma is a cancer in*
- *A. Skeletal muscle cells*
- *B. Smooth muscle cells*
- *C. Blood vessels*
- *D. A and B*
- *ANSWER : B(BASED ON OUR BOOK)*

- *A well-defined mass in the wall of the stomach composed of well-organized pancreatic tissue is*
- *A. Non-neoplastic*
- *B. Malignant*
- *C. Hamartoma*
- *D. Choriocarcinoma*
- *E. Teratoma*
- *ANSWER : A*

- *Cholangiosarcoma is a tumor in*
- *a. Cartilage*
- *b. Bones*
- *c. Biliary system*
- *d. Breast*
- *ANSWER : C(NOT REQUIRED)*

- *Most common cancer among Jordanian females*
- *A. Lung cancer*
- *B. Breast cancer*
- *C. Ovary cancer*
- *D. Colorectal cancer*
- *ANSWER : B*

- *Not a preneoplastic disease*
- *A. Chronic atrophic gastritis*
- *B. Chronic ulcerative colitis*
- *C. Leukoplakia of the oral cavity*
- *D. Villous adenoma of the colon*
- *E. Xeroderma pigmentosum*
- *ANSWER : E(MAYBE NOT REQUIRED)*

- *One of the following is considered as a mixed tumor*
- *A. adenoma*
- *B. Cystadenoma*
- *C. Hamartoma*
- *D. Choristoma*
- *E. Teratoma*
- *ANSWER : E*

- *Which one of the following is an oncogene*
- *A. RB*
- *B. P53*
- *C. RAS*
- *D. APC*
- *E. More than one of the above*
- *ANSWER : C (RAS & ABL)*

- *Which of the following definitions is incorrect?*
- *A. Clonality: neoplasms originate from one single transformed cell*
- *B. Autonomy: complete ability of tumors to sustain their growth without any support from the host cells*
- *C. Polyp: a mass projecting from a mucosal surface regardless of its histopathological nature*
- *D. Dysplasia: disorganised growth confined to the mucosa with intact basement membrane*
- *E. Tumor grade: the extent to which tumor cells resemble their cell of origin, morphologically and functionally*
- *ANSWER : B*

- *Which of the following is a nuclear transcription factor*
- *A. MYC*
- *B. E-cadherin*
- *C. RAS*
- *D. Cyclin D*
- *E. ABL*
- *ANSWER : A*

- *Micro RNAs are*
- *A. Short double stranded segments of nucleic acids*
- *B. Modulate gene expression by decreasing DNA mythelation*
- *C. Inhibitors of protein translation*
- *D. Negative regulators of gene expression that work at the transcription level*
- *E. Inhibitors of mRNA formation*
- *ANSWER : C*

- *All of the following mutations are sufficient to transform cells except*
- *A. Overactivation of a single RAS gene*
- *B. Deletion of both RB genes*
- *C. Deletion of one RB gene and an inhibitory point mutation in the other RB gene*
- *D. ABL-BCR translocation*
- *E. Amplification of both TP53 genes*
- *ANSWER : E*

- *A Cervical biopsy shows loss of maturation of the lower third of the epithelium with several basal mitoses. There is superficial maturation, and the basement membrane is intact. This condition is*
- *A. Neoplastic*
- *B. Benign*
- *C. Invasive*
- *D. Reversible*
- *E. In-situ carcinoma*
- *ANSWER : D*

- *One of the following is not a feature of dysplasia*
- *A. Can regress if it is mild*
- *B. Nucleocytoplasmic ratio is preserved*
- *C. Abnormal mitosis is a histologic feature*
- *D. It is not neoplastic*
- *E. Can progress to cancer even if it is mild*
- *ANSWER : B*

- *Neurofibrumin lis a GAP (GTPase activating protein). Inactivation mutations in this protein case cancer by activating which of following*
- *A. ABL*
- *B. ALK*
- *C. P53*
- *D. RAS*
- *E. BCL2*
- *ANSWER : D*

- *Malignant cells can suppress host immunity by*
- *A. Mucin*
- *B. IL 1*
- *C. CEA*
- *D. TGF beta*
- *E. alpha fetoprotein*
- *ANSWER : D*

- *A gastric carcinoma was found to grow in individual cell pattern with no glandular formation. Which of the following mutations s responsible for this morphology?*
- *A. SLUG/SNAIL inactivation*
- *B. E cadherin loss*
- *C. APC loss*
- *D. MYC overexpression*
- *E. TP53 deletion*
- *ANSWER : B*

- *Which of the following statements is incorrect regarding epithelial-mesenchymal transition (EMT) in neoplasia*
- *A. E cadherin is downregulated*
- *B. Cells acquire actin filaments during EMT*
- *C. SLUG and SNAIL transcription factors are down regulated in this process*
- *D. EMT is a process aiming at acquiring a phenotype that permits increased motility of cells.*
- *E. EMT is essential for tumor invasion and metastasis*
- *ANSWER : C*

- *Choose the incorrect combination*
- *A. HTLVI and T cell lymphoma*
- *B. H pylori and gastric carcinoma*
- *C. EBV and T cell lymphoma*
- *D. Aphlatoxin B and pancreatic carcinoma*
- *E. HPV and nasopharyngeal carcinoma*
- *ANSWER : D*

- *Malignant cells can evade apoptosis by which of the following mechanisms*
- *A. Increased FADD protein*
- *B. Decreased IPA*
- *C. Decreased bc12*
- *D. Increased FLIP protein*
- *E. Increased mitochondrial permeability*
- *ANSWER : D*

- *Which of the following statements is incorrect regarding P53*
- *A. When phosphorylated it inhibits Rb protein causing cell cycle arrest*
- *B. Mutated p53 enables malignancy by increasing the chance of accumulation of other genetic mutations*
- *C. Patients with Li-Fraumeni syndrome inherit a mutated copy of P53*
- *D. Is inhibited by binding to HPV*
- *E. During hypoxia p53 induces DNA repair and inhibits cell senescence*
- *ANSWER : A*

- *Cell division in malignant neoplasms is aided by the presence of an enzyme which repairs progressive chromosomal shortening. The lack of chromosomal shortening allows the malignant cells to undergo many more divisions than the normal cells. Which of the following enzymes is most likely to have this effect*
- *A. Reverse transcriptase*
- *B. DNA polymerase*
- *C. Telomerase*
- *D. Protein kinase*
- *E. Topoisomerase*
- *ANSWER : C*

- *Inherited skin cancer due to ultraviolet light is caused by a mutation in*
- *A. RAS gene*
- *B. BRCA 1 gene*
- *C. Recombination repair genes*
- *D. TP53 gene*
- *E. Nucleotide excision repair genes*
- *ANSWER : E*

- *Which of the following statements is incorrect regarding tumors' changes in metabolism*
- *A. Warburg metabolism ensures obtaining the maximum carbon atoms from each mole of glucose consumed*
- *B. metabolic switch to aerobic glycolysis is enhanced by oncogene overexpression*
- *C. IDH mutations result in onco metabolites that cause epigenetic changes leading to carcinogenesis*
- *D. Autophagy in tumor cells is stimulated during chemotherapy treatment*
- *E. Warburg effect is a novel mechanism not found in normal cells*
- *ANSWER : E*

- *A child has ocular retinoblastoma. He inherited a mutation in a gene that normally causes*
- *A. Decrease cyclin E production*
- *B. Cell arrest in the G2/M phase*
- *C. Increase CDK 4 production*
- *D. Stimulation of formation of cyclin/CDK complexes*
- *E. Hypo-phosphorylation of p53 protein*
- *ANSWER : A*

- *A mass composed of large, atypical cells with numerous mitotic figures*
- *and abnormal mitoses can be a/an*
- *A. Lipoma*
- *B. Adenoma*
- *C. Mesothelioma*
- *D. Fibroma*
- *E. Haemangioma*
- *ANSWER : C*

- *A well circumscribed mass composed of proliferation of well differentiated pituitary gland cells with no atypia or increased mitotic activity is a/an*
- *A. Adenoma*
- *B. Adenocarcinoma*
- *C. Neuroma*
- *D. Hamartoma*
- *E. Polyp*
- *ANSWER : A*

- *A child is born with a single functional allele of a tumor suppressor gene. At the age of five the remaining normal allele is lost through a point mutation. As a result, the ability to inhibit cell cycle progression until the cell is ready to divide is lost. Which of the following neoplasms is most likely to arise via this mechanism?*
- *A. Breast ductal carcinoma*
- *B. Pulmonary small cell anaplastic carcinoma*
- *C. Ocular retinoblastoma*
- *D. Cerebralastrocytoma*
- *E. Chronicmyeloidleukemia*
- *ANSWER : C*

- *In an experiment, it is observed that chronic, increased exposure to ionizing radiation results in damage to cellular DNA. Therefore, a protein is now absent that would arrest the cell in the G1 phase of the cell cycle. The absent protein is most likely the product of the following*
- *gene*
- *A. RAS*
- *B. TP53*
- *C. MYC*
- *D. ABL*
- *E. BCL-2*
- *ANSWER : B*

- *A normal fibroblast can divide up to 70 times. In a fibrosarcoma, fibrous cells can divide after the 80th division. The gene that is activated to acquire this ability is normally expressed in*
- *A. mature fibroblasts*
- *B. labile tissue*
- *C. embryonal cells*
- *D. quiescent tissue*
- *E. cells in the M phase of cell cycle*
- *ANSWER : C*

- *A 65-year-old woman has breast cancer that metastasized to the bone. She has no family history of breast cancer. The least likely mutated gene in her case is*
- *A. RAS*
- *B. TP53*
- *C. BRCA 1*
- *D. E cadherin*
- *E. SLUG/SNAIL*
- *ANSWER : C*

- *PET: positron emission tomography scans are used to detect tumors. Patient is injected with a glucose derivative and tumor cells take this derivative more than normal cells and as such detected with the scan. The concept of PET scanning is related to which hallmark of cancer*
- *A. Inflammation as an enabler of malignancy*
- *B. Genetic instability*
- *C. Reprogramming of energy metabolism*
- *D. Insensitivity to growth inhibitory signals*
- *E. Creation of oncometabolites*
- *ANSWER : C*

- *The division of neoplasms into benign and malignant categories is based on a judgment of a tumor's potential clinical behavior. Which of the following is NOT a benign tumor feature*
- *A. Benign tumor's microscopic and gross characteristics are considered to be relatively innocent*
- *B. Benign tumor is remain localized*
- *C. Benign tumor is amenable to local surgical removal*
- *D. Most benign tumor are moderately differentiated*
- *E. Benign tumors have the parenchyma and the supporting non neoplastic stroma*
- *ANSWER : D*

- *Which of the following is an oncofetal protein*
- *A.CEA*
- *B. PSA*
- *C.GF beta*
- *D. MYC*
- *E. RAS*
- *ANSWER : A*

- *A 46-year-old male presented with a right sided colonic mass. His mother died from a colonic tumor. Examining his colon revealed a single mass with no polyps. The most likely inherited mutated gene that caused his cancer is*
- *a. APC*
- *b. RB*
- *c. Mismatch repair gene*
- *d. Beta catenin*
- *e. Telomerase overactivation*
- *ANSWER : C*

صلى الله
عليه
وسلم

- *A 45-year-old man diagnosed with acute myeloid leukemia (AML). The leukemic cells showed the presence of Philadelphia chromosome. The role of Philadelphia chromosome in the pathogenesis of leukemia is through:*
- *A. Unregulated novel tyrosine kinase activity*
- *B. Myc gene overexpression*
- *C. Hyperphosphorylation of b gene protein*
- *D. Activation of proapoptotic genes*
- *E. Unregulated epidermal growth factor (EGF) receptors*
- *ANSWER : A*

- *TP53 deletion or inactivation mutation results in*
- *A. Increased Thrombospondin*
- *B. Increased proapoptotic proteins*
- *C. Aerobic glycolysis switch*
- *D. Increased expression of DNA repair genes*
- *E. Increased hypoxia*
- *ANSWER : C*

- *A 45-year-old lady has a 3cm irregular hard breast mass that morphologically resembles the normal breast tissue. Form this information you can conclude that the mass is a*
- *A. Grade 1 carcinoma*
- *B. Grade 3 carcinoma*
- *C. Stage 1 carcinoma*
- *D. Stage 3 carcinoma*
- *E. Grade 1, Stage 1 carcinoma*
- *ANSWER : A*

- *MIB 1 is an immunohistochemical stain used to highlight mitotically active cells. Of the following tumors, which one will show low staining with MIB1*
- *A. Hemangioma*
- *B. Liposarcoma*
- *C. Multiple myeloma*
- *D. Seminoma*
- *E. Lymphoma*
- *ANSWER : A*

- *A 48-year-old woman has a routine physical examination. A 4 cm fixed hard mass is palpated in her right breast. Another 2 cm mass is palpable in the left axilla. No other masses were found on body imaging. Which of the following NM classifications best indicates the*
- *stage of her disease*
- *a. T2 N1 M1*
- *b. T1 NO M1*
- *C. T2 N1 MO*
- *d. T3 NO MO*
- *e. T4 N1 M1*
- *ANSWER : C*

- *A 16-year-old boy has numerous polyps in his colon. His doctor advised total colectomy to prevent colonic adenocarcinoma. He inherited a mutation in a gene which normally causes*
- *a. Beta catenin destruction*
- *b. WNT overproduction*
- *c. E cadherin production*
- *d. Beta catenin translocation to the nucleus*
- *e. Cell cycle arrest in the GO phase*
- *ANSWER : A*

- *Which of the following cells doesn't play a role in immunosurveillance*
- *A. Plasma cell*
- *B. Ml macrophage*
- *C. Natural killer cells*
- *D. Cytotoxic T lymphocyte*
- *E. T helper lymphocyte*
- *ANSWER : A*

- *A well circumscribed lesion composed of well differentiated fibroblasts with no cellular pleomorphism or hyperchromatic nuclei is a*
- *A. Choristoma*
- *B. Hamartoma*
- *C. Fibrocarcinoma*
- *D. Fibroma*
- *E. Fibrosarcoma*
- *ANSWER : D*

- *A 37-year-old female developed right sided colon cancer. She has family history of colon cancer. Examining her colon showed a 4 cm tumor and numerous polyps. She has a genetic mutation that results in stimulation of which of the following proteins*
- *A. Mismatch repair gene*
- *B. Beta catenin*
- *C. E cadherin*
- *D. ATM*
- *E. APC*
- *ANSWER : B*

- *Sarcomas usually metastasize through*
- *A. Needle tracts and surgical operations*
- *B. Lymphatics*
- *C. Blood vessels*
- *E. Peritoneal seedings*
- *E. They do not metastasize*
- *ANSWER : C*

- *A 55 year old man found to have a 3 cm colonic mass. Microscopic examination of the tumor revealed a poorly differentiated adenocarcinoma with areas of necrosis. What is the most important staging factor in this patient?*
- *A. Number of mitotic figures*
- *B. Absence of tumor capsule*
- *C. Presence of tumor necrosis*
- *D. Histologic grade*
- *E. Presence of distant metastasis*
- *ANSWER : E*

- *Inherited skin cancer due to ultraviolet light is caused by a mutation in*
- *A. Nucleotide excision repair genes*
- *B. TP53 gene*
- *C. BRCA1 gene*
- *D. Recombination repair genes*
- *E. RAS gene*
- *ANSWER: A*

- *Which of the following chemical agents can cause cancer without metabolic conversion*
- *A. Aphlatoxin B*
- *B. polycyclic hydrocarbons*
- *C. Chemotherapy drugs*
- *D. aromatic amines*
- *E. nitrites*
- *ANSWER : C*

- *A 2GRADElipo year old boy was diagnosed with inherited form of retinoblastoma which is caused by homozygous loss of Rb gene. The main function of this tumor suppressor gene is*
- *A. Inhibition of activation of cyclin E/CDK2 complex*
- *B. Inhibition of apoptotic genes*
- *C. Activation of cytochrome c release*
- *D. Activation of caspase 8*
- *E. Activation of cytoplasmic kinases*
- *ANSWER : A*

- *Which of the following definitions regarding neoplasms is incorrect*
- *A. Tumor autonomy: ability of tumors to proliferate regardless of normal regulatory mechanisms*
- *B. Clonality: tumor cells originating from one mutated cell*
- *C. Sarcoma: Malignant tumor originating from mesenchymal tissue*
- *D. Tumor dormancy: rapidly proliferating tumor cells that cause recurrence after several years of removal of the primary tumor*
- *E. Tumor differentiation: The extent to which tumors resemble their cell of origin*
- *ANSWER : D*

- *Ki 67 is an immunohistochemical stain that stains mitotically active cells. Of the following tumors, which one will show more staining with Ki67*
- *A. Hamartoma*
- *B. Lipoma*
- *C. Choristoma*
- *D. Adenoma*
- *E. Lymphoma*
- *ANSWER : E*

- *Which of the following mutation can cause cancer*
- *A. Decreased BCL2 expression*
- *B. A translocation resulting in downregulation of RAS protein*
- *C. MYC amplification*
- *D. Increased expression of TP53*
- *E. Deletion of a single RB allele*
- *ANSWER : C*

- *Tumors can become self-sufficient in growth signals through all of the following mechanisms except*
- *A. Increased expression of Cyclin Dependent Kinase 4*
- *B. Increased Cyclin D expression*
- *C. RAF over-expression*
- *D. Increased GTPase*
- *E. ABL-BRC translocation*
- *ANSWER : D*

- *WNT signalling pathway causes*
- *A. Destruction of APC*
- *B. Beta catenin activation*
- *C. Stimulation of beta catenin destruction complex*
- *D. Increased E cadherin expression*
- *E. Downregulation of SLUG/SNAIL genes*
- *ANSWER : B (BE CAREFUL)*

- *Tumor cells can avoid being killed by cytotoxic T cells by expressing*
- *A. PDL1*
- *B. CEA*
- *C. TNF*
- *D. MUC 17*
- *E. HIF*
- *ANSWER : A*

- *Around 20% of breast carcinomas can be treated by Herceptin ; an antibody therapy targeting HER2/NEU gene product which is a*
- *A. Growth factor*
- *B. Growth factor receptor*
- *C. Transcription factor*
- *D. MiRNA*
- *E. Growth inhibitor*
- *ANSWER : B*

- *Which one of the listed statements best describes the mechanism through which Fas (CD95) initiates apoptosis*
- *A. BCL2 product blocks bax channels*
- *B. Cytochrome c activates Apaf-1*
- *C. FADD stimulates caspase 8*
- *D. TNF inhibits IKB*
- *E. TRADD stimulates FADD*
- *ANSWER : C*

- *A 55-year-old man had increasing fatigue for the past 6 months. Laboratory studies show a WBC count of 189,000/microliter. The peripheral blood smear shows many mature and immature myeloid cells present. Cytogenetic analysis of cells obtained via bone marrow aspiration reveals a t (9:22) translocation. This translocation leads to formation of a hybrid gene that causes cancer through which of the following mechanisms*
- *A. Downregulation of p53*
- *B. Increased activity of tyrosine kinase*
- *C. Downregulation of ABL gene*
- *D. Increased cyclin D activity*
- *E. MYC amplification*
- *ANSWER : B*

- *Choose the correct statement regarding RB gene*
- *A. To cause cancer, both copies of the RB gene must be deleted in germ cells*
- *B. The protein product of the RB gene is stimulated via gaining more phosphate groups*
- *C. Normal RB causes arrest of cell cycle at the G2/M phase*
- *D. HPV can cause cancer by binding to and functionally deleting RB*
- *E. RB acts via binding to and inhibiting the transcription of cyclin B*
- *ANSWER: D*

- *All of the following statements are correct regarding tumours' changes in metabolism except*
- *A. Warburg metabolism ensures obtaining the maximum energy from each mole of glucose consumed*
- *B. Warburg effect is utilised clinically in PET scan.*
- *C. IDH mutations result in oncometabolites that cause epigenetic changes leading to carcinogenesis.*
- *D. Autophagy is used by tumour cells during chemotherapy treatment to aid survival.*
- *E. Warburg effect is facilitated by overactivation of oncogenes and downregulation of tumour suppressor genes*
- *ANSWER : A*

- *Which of the following mutation can cause cancer*
- *A. Decreased BCL2 expression*
- *B. A translocation resulting in downregulation of RAS protein*
- *C. MYC amplification*
- *D. Increased expression of TP53*
- *E. Deletion of a single RB allele*
- *ANSWER : C*

- *A cervical biopsy showed immature large cells with hyperchromatic nuclei confined to the lower third of the mucosa. The basement membrane was intact. Which of the following describe the lesion correctly*
- *A. Neoplastic*
- *B. Innocent and not premalignant*
- *C. Can regress*
- *D. Micro-invasive*
- *E. Carcinoma in situ*
- *ANSWER : C*

- *A 45-year-old woman complained of abdominal pain which was thought to be due to appendicitis. During the appendectomy operation, the surgeon noted several masses on the peritoneal surface. The appendix was normal, and no appendiceal masses were seen. Frozen section of the peritoneal lesions showed metastatic carcinoma. The most likely primary site for these metastases is the*
- *A. Lung*
- *B. Ovary*
- *C. Kidney*
- *D. Brain*
- *E. Liver*
- *ANSWER : B(MAINLY APPENDIX AND OVARY)*

- *Which of the following definitions regarding neoplasms is incorrect*
- *A. Tumor autonomy: ability of tumors to proliferate regardless of normal regulatory mechanisms*
- *B. Clonality: tumor cells originating from one mutated cell*
- *C. Sarcoma: Malignant tumor originating from epithelial tissue*
- *D. Polyp: mass projecting above mucosal surface*
- *E. Tumor differentiation: The extent to which tumors resemble their cell of origin*
- *ANSWER : C*

- *A 34-year-old male complained of abdominal discomfort. Endoscopy showed a 5mm flat lesion at the gastric antrum (stomach). Histopathologic examination revealed normal looking pancreatic tissue. This lesion is*
- *A. Congenital anomaly*
- *B. Hamartoma*
- *C. Benign neoplasm*
- *D. Teratoma*
- *E. Adenoma*
- *ANSWER : A*

The End