Malignancy VIVAs (Pathology)

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2014.2.B.3

Question 1 Lung Tumours (pp 721-731) **Subject:** Path LOA: 2	1. What are recognised aetiological factors in lung cancer? Prompt for detail: Are you aware of any environmental factors that place you at greater risk for lung cancer?	**Tobacco smoking -** 87% of cancers in recent or current smokers- 10x increase in risk, Statistically associated with daily amount; inhalation tendency; duration of habit, Histologic changes in respiratory epithelium in smokers **Industrial Hazards** Ionising radiation, Uranium, Asbestos **Air pollution -** Radon **Molecular genetics -** Familial clustering **Precursor lesions -** Squamous dysplasia and CIS, Atypical adenomatous hyperplasia, Diffuse idiopathic pulm neuroendocrine cell hyperplasia	Tobacco smoking and 2 other bold to pass
	2. What are the most common presenting symptoms of lung cancer?	**Cough** (75%), Loss of weight(40%), Chest pain (40%), Dyspnoea (20%), Haemoptysis	3 to pass
	3. What are the clinical effects of local lung tumour spread?	• **Airway obstruction ->pneumonia, abscess, lobar collapse**, Lipoid pneumonia, • **Obstruction of SVC** leading to SVC syndrome • **Pleural effusion**, • **Pericarditis or tamponade**, • **Hoarseness** (r/c laryngeal n), • **Dysphagia** (oesophagus), Rib destruction, • **Diaphragmatic paralysis** (phrenic nerve) • **Horner syndrome** (sympathetic ganglia)	5 of 8 bold to pass
	4. What paraneoplastic syndromes are associated with lung cancer? PROMPT: What hormones might be produced?	Clinically significant in 1-10% of patients ACTH- **Cushing's** (predominantly small cell) ADH—**hyponatraemia** (predominantly small cell) PTH, PTH related peptide, PGE and some cytokines- **hypercalcaemia** (predominantly small cell/squamous cell), Calcitonin-hypocalcaemia, Gonadotrphins-	2/3 bold + 1 other to pass
		gynaecomastia, 5HT and bradykinin-wheeze/flushing	

2013.2.A.2

Pathology: Clinical effects of tumours	What is the definition of a neoplasm?	**Abnormal growth of a tissue** **Growth exceeds and is uncoordinated with that of the original tissue** **Growth continues in the absence of the stimuli which evoked the change** **(preys on host and serves no purpose)**	Must get the gist of all 3
	How may a malignant tumour affect the 'host'?	**Local and metastatic direct effects.** Pressure, Bleeding, ulceration, rupture and infarction. **Cachexia** **Hormonal**	3 of 4 bold
	(Prompt: what is meant by paraneoplastic syndrome?) Give examples of paraneoplastic endocrinopathies	**Paraneoplastic:** - *Endocrinopathy with 3 examples (Cushings, SIADH, Ca++ up, hypoglycaemia, Carcinoid synd, polycythaemia)* - *Nerve and muscle – myasthenia,* - *Skin - acanthosis nigricans, dermatomyositis* - *Bone: HPOA and clubbing* - *Blood/Vascular: anaemia, venous thrombosis*	3 examples of paraneoplastic syndrome

2009.2

Question 1:	What is a paraneoplastic syndrome?	A complex of symptoms that cannot be readily explained by the local or distant spread of a tumour or by elaboration of hormones from the tissue in which the tumour arose.	Generally accurate description required to pass
Question 2:	What are the main types of paraneolastic syndromes?	1. **Endocrinopathies** - Cushing - Small Cell Ca lung (ACTH) - SIADH - Small Cell Ca lung, intracranial (ADH) - Hypercalcemia - Squamous Cell Ca lung, breast (parathyroid like hormones, TNF, TGF, IL-1) - Carcinoid – bronchial adenoma, ca pancreas and stomach – serotonin/bradykinin) - Polycythemia – Renal (EPO) 2. **Nerve and Muscle Syndromes** - Myasthenia (bronchogenic Ca - ? immune mechanism) - CNS/neuro (breast) 3. **Dermatological** - Acanthosis Nigricans (gastric, lung, uterine) - Dermatomyositis (bronchogenic. Breast) 4. **HPOA** - bronchogenic	Endocrinopathies with at least 2 examples and at least one other to pass. Prompt: What syndromes or abnormal laboratory findings may be related to these syndromes? What are the mechanisms of these syndromes?
Question 3:	What is the cause of cachexia in cancer?	Not generally understood Anorexia Elevated BMR ? humoral factors – TNF, cytokines, Other tumour produced factors.	

2009.1

Question 3: **Tumour invasion and metastasis**	**Describe the steps involved in tumour cell invasion of the extracellular matrix**	1. **Detachment** ('loosening up') of the tumour cells from each other, with breaking of intercellular bonds 2. **Attachment** to extracellular matrix (ECM) components, via laminin and fibronectin receptors 3. **Degradation** of ECM, via type IV collagenase and plasminogen activator, creating passageways 4. **Migration** of tumour cells, which may then lead to vascular dissemination	Accept ≥ 3 of 4 **bolded words** (or a similar explanation) for a pass? Prompt: "*Detachment is the first step.*"
	Describe possible mechanisms that influence the distribution of metastases	1. **Tumour cell adhesion molecules** ligands *preferentially* expressed on target organ cells 2. **Chemokines** *for* target tissues 3. **Chemoattractants** *from* target organs	Prompt: "*Chemokines have an important role*"

2009.1

Question 5: **Malignant mesothelioma (pleural)**	**Describe the relationship between asbestos exposure and malignant mesothelioma**	1. **Increased incidence among people with heavy exposure to asbestos.** Lifetime risk up to 7-10%. 2. **Asbestos bodies** found in increased numbers in lungs of patients with mesothelioma. 3. **Long latent period** for mesothelioma (25-45 yrs). 4. No increased risk in asbestos workers who smoke (in contrast to asbestos related lung carcinoma). Asbestos workers more at risk of dying from lung carcinoma (especially if they smoke).	**2/4**
	Where can malignant mesothelioma arise?	1. **Pleura** 2. **Peritoneum** 3. pericardium 4. tunica vaginalis 5. genital tract	**Bold**