**Question 1**

The oral contraceptive pill (OCP) is protective against which of the following?

A Ovarian carcinoma

B Hepatic adenoma

C Venous thrombosis

D Cervical carcinoma

Explanation A

No link has been shown between the OCP and breast cancer. If a woman has Human Papilomavirus (HPV) and is on the OCP, she may be at a higher risk of developing cervical carcinoma. Hepatic adenoma is connected to the use of the OCP. Women on the OCP are at increased risk of venous thrombosis especially if they smoke.

Studies have shown the OCP to be protective against endometrial and ovarian carcinomas

**Question 2**

The most common type of thyroid carcinoma is?

A Follicular

B Papillary

C Medullary

D Anaplastic

Explanation B

In the western world, thyroid carcinoma accounts for 1.5% of all cancers. Cancers arise from follicular epithelium except medullary cancer, which arise from the parafollicular or C cells. Medullary cancer occurs in 5% of cases, anaplastic cancer in <5%, follicular cancer 10-20% and papillary cancer 75-85%

**Question 3**

Acanthosis nigricans is associated with all of the following malignancies, with the exception of?

A Uterine

B Brain

C Gastric

D Lung

Explanation B

Acanthosis nigricans is associated with Gastric carcinoma, lung carcinoma, and uterine carcinoma and its cause is thought to be immunological; secondary to secretion of epidermal growth factor. Acanthosis nigricans can be an important marker of benign and malignant conditions: Benign: 80% develops gradually and usually occurs in childhood or during puberty (1) Autosomal dominant trait w/ variable penetrance (2) In association w/ obesity or endocrine abnormalities (esp. pituitary or pineal tumours and DM) (3) as part of several rare congenital syndromes Malignant: lesions arising in middle[aged and older individuals in association w/ underlying cancers, most commonly gastrointestinal adenocarcinomas.

Extra: This disorder is commonly associated with an internal malignancy, usually adenocarcinoma, and most commonly of the gastrointestinal tract or uterus, and less commonly of the lung, prostate, breast, or ovary. The stomach is the most common site. Acanthosis nigricans of the oral mucosa or tongue is highly suggestive of a neoplasm, especially of the gastrointestinal tract.

**Question 4**

Asbestos is associated with all the following conditions, except?

A Pneumoconiosis

B Pleural plaques

C Bronchial carcinoma

D Siderosis

Explanation D

Siderosis is a disease caused by the inhalation of iron particles, which leads to inflammation and scarring of the lung tissue. Pneumoconiosis is a restrictive lung disease caused by the inhalation of dust.

**Question 5**

Which of the following is a skin manifestation of an underlying malignancy?

A Melanoma

B Acanthosis nigricans

C Epidermoid cyst

D Naevus

Explanation B

Acanthosis nigricans (AN) is a brown to black, poorly defined, velvety hyperpigmentation of the skin. It is usually found in body folds such as the posterior and lateral folds of the neck, axilla, groin, umbilicus, forehead and other areas. It can be an important cutaneous marker of benign and malignant conditions

AN can be benign or malignant, while former is much more common and insulin resistance is implicated as one of the causes, Malignant AN can be a cutaneous manifestation of an underlying aggressive malignancy - (90% are Gut tumours, especially gastric cancer).

**Question 6**

Which of the following is NOT an example of a paraneoplastic syndrome?

A Gynaecomastia

B Hyperuricaemia

C Hypocalcaemia

D Hypercalcaemia

Explanation B

Paraneoplastic syndrome (PN) are symptom complexes in cancer bearing individuals that cannot be explained ,either by the local or distant spread of the tumour or by the elaboration of hormones indigenous to the tissue from which the tumour arose.

These occur in about 10% of persons with malignant disease

Lung carcinomas can be associated with several PN syndromes: the hormones or hormone like factors elaborated are

Parathyroid hormone producing hypercalcaemia. Calcitonin producing hypocalcaemia. Gonadotropins producing gynaecomastia.

Hyperuricaemia occurs form increased nucleic turnover (leukaemias and other aggressive malignancies. It does not appear to be a result of a paraneoplastic syndrome

**Question 7**

Which of the following chronic inflammatory states DOES NOT have the capacity for malignancy?

A Psoriases

B Sialadenitis

C Cystitis

D Inflammatory bowel disease

Explanation A

The precise mechanism linking chronic inflammation to cancer has not been well established. It has been shown that in the presence of chroninc inflammation the immune response may become maladaptive, promoting tumourgenesis. As with any cause of tissue injury , there is a compensatory proliferation of cells to repair the damage. In some cases, chronic inflammation may increase the production of stem cells whcih may become the subject to the effect of mutagens.

Psoriases does not lead to cancer. The other options do. Other examples include: reflux oesophagitis, lichen planus, hepatitis, AIDS, PID, osteomyelitis. mononucleosis, Hashimoto's thyroiditis and chronic pancreatitis.

**Question 8**

Which of the following is a characteristic of myelofibrosis?

A Blood film shows a leukoerythroblastic anaemia

B There is an increased proliferative cell production in the bone marrow

C Thrombocytopaenia occurs early in the disease

D Mean survival is 5-8yrs

Explanation A

Myelofibrosis, the hallmark of which is the development of obliterative fibrosis leading to suppression of the bone marrow cell production causing cytopaenias and neoplastic extramedullary haematopoiesis. Clinical features include fullness in the splenic region because of anaemia and splenomegaly. Leukoerythroblastosic anaemia is present on blood film. Platelets are normal early in the disease but thrombocytopaenia intervenes as the disease progresses. Median survival is 3-5yrs. Transformation to AML occurs in 5-20% of cases. Treatment is difficult but bone marrow transplant is being tried in younger patient and kinase inhibitors offer some future hope

**Question 9**

Which is not a feature of intravascular haemolytic anaemia?

A Conjugated hyperbilirubinaemia

B Anaemia

C Haemosiderinuria

D Haemoglobinaemia

Explanation A

In all types of uncomplicated HA, the bilirubin is unconjugated. The level of hyperbilirubinaemia is dependent on the functional capacity of the liver and the rate of haemolysis. When liver function is normal, the jaundice is not severe

**Question 10**

Which cancer marker and corresponding tumour is correct?

A Alpha feto-protein (AFP) and lung cancer

B CA 125 and colon cancer

C Neuron specific enolase and neuroblastoma

D HCG and ovarian cancer

Explanation C

Ca 125= ovarian cancer, Ca 19-9= colon cancer and pancreatic cancer

Ca 15-3= breast cancer. AFP= liver cancer, nonseminomatous germ cell tumour of testis. HCG= trophoblastic tumours and nonseminomatous testicular tumours.

Review the table in the current textbook; selected tumour markers

**Question 11**

Which cancers kills more people (both female and male combined)?

A Lung

B Colon

C Lymphoma

D Pancreas

Explanation A

Cancers of the lung, female breast, prostate and colon constitute more than 50% of cancer diagnosis and cancer deaths.

Lung-male 31%, female 26%

Colon-male 8%, female 9%

NH Lymphoma- male 3%, female 3%

Pancreas-male 6%, female 6%

**Question 12**

With regards to cancer spread, which of the following is correct?

A Spleen is the most common site of metastatic deposit

B Bowel cancer is typified by seeding to the peritoneum

C 30% of solid tumours present with metastatic disease

D Haematogenous spread is the most common pathway for the initial dissemination of carcinomas

Explanation C

Dissemination of cancers may occur through direct seeding of body cavities or surfaces, lymphatic spread and haematogenous spread. Although direct transplantation of tumour cells, e.g. on surgical instruments, may occur, but is rare.

30% of newly diagnosed solid tumours (excluding skin cancers other than melanomas) present with metastases.

Metastatic spread strongly reduces the chance of a cure

Seeding of body cavities and surfaces occurs whenever a malignant neoplasm penetrates into a natural “open field”. Most often involved is the peritoneal cavity, but any other cavity may be affected. Ovarian carcinoma in particular, displays such seeding.

Lymphatic spread is the most common pathway for the initial dissemination of carcinomas and sarcomas. The pattern of lymph node involvement follows the natural routes of lymphatic drainage.

Haematogenous metastases commonly involve the liver and lung because all the portal blood drains to the liver and all the caval blood drains through the lungs.