NAME : WAHAJ KHALIL
ID :16539
Class :MLT 2ND SEC B
Assignment : pathology
QUESTION NO : 1
WHAT IS SHOCK AND EXPLAIN ITS TYPES ?
ANSWER :
Shock is a physiologic state characterized by systemic reduction in tissue perfusion , resulting in decreased tissue oxygen delivery
TYPES :

Type	Cause
Low volume :	Fluid loss such as bleeding or diarrhea
Heart	: Ineffective pumping due to heart damage
Obstructive :	Blood flow to or from the heart is blocked
Distributive :	Due to abnormal flow within the small blood vessels

Question no 2 :
GRANULOMATOUS INFLAMATION IN DETAIL ?
Answer :

Granulomatous inflammation is characterized by the presence of granuloma. A granuloma is a microscopic aggregate of epithelioid cells. Epithelioid cell is an activated macrophage, with a modified epithelial cell-like appearance (hence the name epithelioid). The epitheloid cells can fuse with each other & form multinucleated giant cells. So, even though, a granuloma is basically a collection of epithelioid cells, it also usually contains multinucleated giant cell & is usually surrounded by a cuff of lymphocytes and occasional plasma cells. There are two types of giant cells:

a. Foreign body-type giant cells which have irregularly scattered nuclei in presence of indigestible materials.

b. Langhans giant cells in which the nuclei are arranged peripherally in a horse -shoe pattern which is seen typically in tuberculosis, sarcoidosis etc…

Giant cells are formed by fusion of macrophages perhaps by a concerted attempt of two or more cells to engulf a single particle.

Pathogenesis:

There are two types of granulomas, which differ in their pathogenesis.

A. Foreign body granuloma

These granulomas are initiated by inert foreign bodies such as talc, sutures (nonabsorbable), fibers, etc… that are large enough to preclude phagocytosis by a single macrophage and do not incite an immune response.

B. Immune granulomas

Antigen presenting cells (macrophages) engulf a poorly soluble inciting agent. Then, the macrophage processes and presents part of the antigen (in association with MHC type2 molecules) to CD4+T helper 1 cells which become activated. The activated CD4+ T-cells produce cytokines (IL-2 and interferon gamma).The IL-2 activates other CD4+T helper cells and perpetuates the response while IFN-γ is important in transforming macrophages into epitheloid cells and multinucleated giant cells. The cytokines have been implicated not only in the formation but also in the maintenance of granuloma.

Macrophage inhibitory factor helps to localize activated macrophages and epitheloid cells.

Causes:

Major causes of granulomatious inflammation include:

a) Bacterial: Tuberculosis, Leprosy, Syphilis, Cat scratch disease, Yersiniosis
b) Fungal: Histoplasmosis, Cryptococcosis, Coccidioidomycosis, Blastomycosis
c) Helminthic: Schistosomiasis
d) Protozoal: Leishmaniasis, Toxoplasmosis
e) Chlamydia: Lymphogranuloma venerum
f) Inorganic material: Berrylliosis
g) Idiopathic: Acidosis, Cohn's disease, Primary biliary cirrhosis

QUESTION NO : 3
EFFECT OF USE OF TOBBACO ON HEALTH ?

ANSWER :
Considering the globe, the adverse effects of tobacco smoking out number all the effects of other pollutants. It is considered as one of the most important preventable causes of death in the United States. In our society also even though its health impacts are not so pronounced it still has series health damage.

Tobacco smoking affects not only those who are actively smoking but it also has an adverse consequence on the health of those who are by the vicinity of the smoker. These individuals are termed as passive Smokers.

The cigarette smoke that is taken through the mouth into the lung has several types of chemicals that have diverse & serious effects on our health. The composition depends on the type of tobacco, length of the cigarette, and presence and effectiveness of filter tips.Usually present are (1) Carcinogens whose effects have been verified in lower animals (e.g.polycyclic hydrocarbons, betanaphthylamine, nitrosamines). (2) Cell irritants and toxins (e.g. Ammonia, formaldehyde, and oxides of nitrogen). (3) Carbon monoxide, and (4) nicotine, which has various effects on the sympathetic nervous system, blood pressure heart late and the like.

Question no : 4
WHAT IS MALIGNANT TUMOR AND HOW TO DIAGNOSE and what is treatment ?
ANSWER :
Malignant tumor : . A tumor that invades surrounding tissues, is usually capable of producing metastases, may recur after attempted removal, and is likely to cause death unless adequately treated.
DIAGNOSIS :
When the cells are abnormal and can grow uncontrollably, they are cancerous cells, and the tumor is malignant. To determine whether a tumor is benign or cancerous, a doctor can take a sample of the cells with a biopsy procedure.

TREATMENT :
Surgery. When used to treat cancer, surgery is a procedure in which a surgeon removes cancer from your body.
Radiation Therapy.
Chemotherapy.
Immunotherapy to Treat Cancer.
Targeted Therapy.

Hormone Therapy.
Stem Cell Transplant.
Precision Medicine.

QUESTION NO :5
NOTE ABOUT HAEMORRPHAGE ?
ANSWER :
HAEMORRPHAGE :
Hemorrhage is extravasation of blood outside the blood vessel.

Causes:

• Physical trauma – Stabbing
- Stick injury
- Gunshot
- Motor vehicle accident

• Inadequacies in blood clotting which can be due to:

A. Too few or poorly functioning platelets (i.e. qualitative & quantitative defect of platelets)
B. Missing or low amount of clotting factors
E.g. Low levels of prothrombin, fibrinogen & other precursors.
Inadequate vitamin K leads to clotting factor deficiency because this vitamin is important in the synthesis of the clotting factors by the liver.

Terminology:

1) Haemorrhage enclosed within a tissue or a cavity is knownas hematoma.
2) Minute 1-2 mm hemorrhages occurring in the skin, mucosal membrane, or serosal surface are called petechiae.
3) Slightly > 3mm hemorrhage occurring in the skin is referred to as purpura.
4) Larger than 1-2cm subcutaneous hematoma is called eccymosis (bruises). It is typical after trauma.

Effects of haemorrhage: depend on the rate and amount of blood loss:

• If > 20% the total blood volume is rapidly lost from the body, it may lead to hypovolumic shock & death.
• Chronic loss of blood leads to anaemia.