Chapter 1. Cellular injury and adaptation (3):

1.
An example of hypertrophy would be
(a) liver regeneration after partial hepatectomy
(b) breast development at puberty
(c) the uterus during pregnancy
(d) the uterus during menstruation
(e) a papillomavirus induced skin wart

2. Hypertrophy
(a) occurs after partial hepatectomy
(b) increases function of an organ exponentially
(c) is triggered by mechanical and trophic chemicals
(d) occurs after denervation
(e) is usually pathological

3. Which of the following is an example of hypertrophy (2000)
(a) increased liver size after partial hepatectomy
(b) increased size of the female breast at puberty
(c) increased respiratory epithelium seen in vitamin A deficiency
(d) increased size of the uterus in pregnancy
(e) endometrial development in readiness for ovum implantation

4. Metapalsia
(a) can be caused by vitamin B_{12} deficiency
(b) preserves the mucus secretion in the respiratory tract
(c) is typically irreversible
(d) describes the underlying pathology of Barrett's oesophagus
(e) is an increase in the number and size of cells in a tissue

5. Hyperplasia is
(a) increase in the size of cells
(b) increase in the number of cells
(c) increase in the number of cellular organelles
(d) increase in the size of the organ
(e) always pathological

6. Examples of hyperplasia include
(a) cardiac enlargement seen in hypertension
(b) fatty liver
(c) skeletal muscle enlargement with weightlifting
(d) glandular epithelium of pubertal breasts
(e) none of the above

7. Which of the following is not associated with atrophy?

(a) decreased smooth endoplasmic reticulum
(b) decreased rough endoplasmic reticulum
(c) decreased mitochondrial number
(d) lysosomal degradation of cellular components
(e) decreased autophagic vacuoles

8. Regarding atrophy, all are correct except
(a) Persistence of residual bodies
(b) decreased microfilaments
(c) Decreased rough endoplasmic reticulum
(d) Decreased autophagic vacuoles
(e) Decreased smooth endoplasmic reticulum

9. All the following are features of apoptosis except
(a) cell swelling
(b) chromatin condensation
(c) formation of cytoplasmic blebs
(d) lack of inflammation
(e) phagocytosis of apoptotic bodies

10. Irreversible cell injury is characterised by
(a) dispersion of ribosomes
(b) cell swelling
(c) nuclear chromatin clumping
(d) lysosomal rupture
(e) cell membrane defects

11. Pinocytosis (2006)
(a) adds to the cell membrane
(b) is the uptake of small particulate matter
(c) is the vacuolisation of the cell
(d) involves the uptake of opsinised bacteria
(e) involves the uptake of soluble macromolecules

12. Regarding fatty change, which statement is incorrect (p35-6)
(a) it may result from protein malnutrition
(b) it may result from anoxia
(c) it may result from diabetes mellitus
(d) fatty cells are seen sporadically in alcoholic fatty liver
(e) it can be seen in scattered hepatocytes in patients with hepatitis C

13. Fatty change (2004)
(a) occurs during protein malnutrition
(b) is not a feature of hypoxia
(c) is abnormal accumulations of free fatty acids in cells
(d) always impairs cellular function
(e) is sometimes physiological

14. Dystrophic calcification

(a) is formed only in coagulative necrosis
(b) does not occur on heart valves
(c) rarely causes dysfunction
(d) is rarely found in mitochondria
(e) is formed by crystalline calcium phosphate material

15. Metastatic calcification occurs in
(a) damaged heart valves
(b) old lymph nodes
(c) atherosclerotic lymph nodes
(d) gastric mucosa
(e) thyroid papillary cancer

16. Metastatic calcification includes (2006)
(a) calcific deposits throughout the body including gastric mucosa
(b) hip joint arthritis
(c) valvular calcification
(d)
(e)

Answers:

1. *(*

An example of hypertrophy would be p7-9

(a) liver regeneration after partial hepatectomy ***(compensatory hyperplasia)***

(b) breast development at puberty ***(hormonal hyperplasia)***

(c) enlargement of the uterus during pregnancy (an example of hormonal hyperplasia and hypertrophy)

(d) the uterus during menstruation ***(atrophy)***

(e) a papillomavirus induced skin wart ***(pathologic hyperplasia)***

2. Hypertrophy p7-9

(a) occurs after partial hepatectomy ***(hyperplasia)***

(b) increases function of an organ exponentially ***(wrong)***

(c) is triggered by mechanical and trophic chemicals (eg progestrogen, and foetal growth effects on the uterus)

(d) occurs after denervation ***(atrophy)***

(e) is usually pathological WRONG ***(exercise induced hypertrophy, pregnancy)***

3. Which of the following is an example of hypertrophy p7,8 451(2000)

(a) increased liver size after partial hepatectomy ***(hyperplasia)***

(b) increased size of the female breast at puberty ***(hyperplasia)***

(c) increased respiratory epithelium seen in vitamin A deficiency ***(metaplasia p451)***

(d) increased size of the uterus in pregnancy (both hyperplasia & hypertrophy)

(e) *endometrial development in readiness for ovum implantation ***(hyperplasia)***

4. Metapalsia p11

(a) **can't** be caused by vitamin B_{12} deficiency **(*decreases cell turnover, the gastric mucosa becomes thin and atrophic)***

(b) ***does not preserve the mucus secretion in the respiratory tract***

(c) is ***typically reversible***

(d) describes the underlying pathology of Barrett's oesophagus

(e) is an increase in the number and size of cells in a tissue ***(hypertrophy and hyperplasia)***

5. Hyperplasia is p6-9 (1997)

(a) increase in the size of cells ***(hypertrophy)***

(b) increase in the number of cells

(c) increase in the number of cellular organelles ***(also seen in hypertrophy)***

(d) increase in the size of the organ ***(also seen in hypertrophy)***

(e) is ***either*** pathological or physiological

6. Examples of hyperplasia include

(a) cardiac enlargement seen in hypertension ***(hypertrophy)***

(b) fatty liver ***(fatty change indicating cellular injury)***

(c) skeletal muscle enlargement with weightlifting ***(hypertrophy)***

(d) glandular epithelium of pubertal breasts

(e) none of the above

7. Which of the following is not associated with atrophy? p10
(a) decreased smooth endoplasmic reticulum
(b) decreased rough endoplasmic reticulum
(c) decreased mitochondrial number
(d) lysosomal degradation of cellular components causing ***brown atrophy***
(e) increased autophagic vacuoles, which contain fragments of cellular components

8. Regarding atrophy, all are correct except p9-10
(a) Persistence of residual bodies
(b) decreased microfilaments
(c) Decreased rough endoplasmic reticulum
(d) Increased autophagic vacuoles, as parts of the cell are digested to reduce energy requirements
(e) Decreased smooth endoplasmic reticulum

9. All the following are features of apoptosis except p20, 26
(a) cell swelling (irreversible or reversible cell injury)
(b) chromatin condensation
(c) formation of cytoplasmic blebs
(d) lack of inflammation
(e) phagocytosis of apoptotic bodies

10. Irreversible cell injury is characterised by p21-25
(a) dispersion of ribosomes
(b) cell swelling
(c) nuclear chromatin clumping
(d) lysosomal rupture
(e) cell membrane defects are always irreversible

11. Pinocytosis p32
(a) ***does not*** to the cell membrane
(b) ***phagocytosis*** is the uptake of particulate matter
(c) ***is not*** vacuolisation of the cell
(d) ***phagocytosis*** involves the uptake of opsonised bacteria
(e) involves the uptake of soluble macromolecules
(x) another paper had is the same as exocytosis: exocytosis is the expulsion, not the uptake of macromolecules from the cell.

12. Regarding fatty change, which statement is incorrect (pp35-6, 880)
(a) it may result from protein malnutrition
(b) it may result from anoxia
(c) it may result from diabetes mellitus
(d) fatty deposits are seen in all hepatocytes in alcoholic fatty liver
(e) fatty acids are oxidised in the mitochondria. Fatty change can be seen in scattered hepatocytes in patients with hepatitis C
the question had this statement in it, not found in the path text
(x) ?may represent unmasking of normal fat content

13. Fatty change (2004) p35-36
(a) occurs during protein malnutrition
(b) is seen after
(c) is abnormal accumulations of ***triglycerides*** in cells
(d) ***may allow normal function***, but when severe, impairs cellular function
(e) is ***never physiological***

14. Dystrophic calcification p41
(a) is formed in ***liquefactive or coagulative*** necrosis
(b) ***occurs on heart valves***
(c) causes ***dysfunction in heart valve function***
(d) is ***found in mitochondria of dead or dying cells***
(e) is formed by crystalline calcium phosphate material

15. Metastatic calcification occurs in (p41)
(a) damaged heart valves ***(dystrophic)***
(b) old lymph nodes ***(dystrophic. Post inflammatory, areas of necrosis)***
(c) atherosclerotic vessels ***(dystrophic)***
(d) principally affects tissues of the gastric mucosa, kidneys, lung systemic arteries and pulmonary veins. All these tissues lose acid, and hence have a ↑pH, predisposing to calcification
*(e) thyroid papillary cancer ***(dystrophic psammoma bodies)***
(x) another paper had: old tuberculosis scarring: ***dystrophic (site of necrosis)***