

Laboratory Animal Paper - Sample Short Answer Question

Answer the following questions regarding neoplasms of rodent mammary glands.

- a) The high incidence of spontaneous mammary tumours in aging rats is the result of higher levels of what hormone, secreted by what other tumour? (2 marks)

It is due to the high incidence of prolactin secreting pituitary tumours.

- b) What virus is responsible for certain strains of mice having a high incidence of mammary tumours? (1 mark)

Mouse mammary tumour virus (MMTV)

- c) State the two most common reasons why mammary tumours lead to the humane euthanasia of a rat on a carcinogenicity study? (2 marks)

Due to the large size and position they may impede locomotion.

Ulceration / haemorrhage of the overlying skin.

- d) State two criteria for diagnosing a non-metastasising adenocarcinoma rather than adenoma? (2 marks)

Accept any two of the following?

- 1. Multi-layering of cells*
- 2. Poor demarcation from adjacent mammary tissue / infiltrative growth*
- 3. Structural pleomorphism*
- 4. Detachment of cells from basement membranes*

- e) Which of the following neoplastic phenomena are recommended to be recorded as distinct tumour types by InHand? (2 marks)

Adenocarcinoma in adenoma

Adenocarcinoma arising in fibroadenoma

Sarcoma arising in fibroadenoma

Adenocarcinoma arising in fibroadenoma and Sarcoma arising in fibroadenoma

- f) What proportion of squamous change would result in a malignant mammary glandular tumour being classed as an adenosquamous carcinoma? (1 mark)

25%

- g) A mixed benign mammary tumour must contain at least two components including what? (2 marks)

An epithelial component and a connective tissue component other than fibrous tissue.

- h) What term is used for a mixed mammary tumour where both components are malignant? (2 marks)

Carcinosarcoma