

METASTATIC UTERINE ADENOCARCINOMA IN A PET RABBIT

SIR: We would like to report a case of metastatic adenocarcinoma in the lungs and kidneys of a pet rabbit.

A 5-year old, female Californian cross rabbit (*Oryctolagus cuniculus*) was observed to show clinical signs of anorexia, weakness and depression for a few days. The animal was also observed to have bilateral serous nasal discharge, dyspnoeic with cyanotic mucous membranes and showed abdominal breathing. Respiratory tract infection was suspected, but the animal was dead before any treatment could be given.

Post-mortem examination revealed the presence of numerous nodular growths in the lungs and uterus. All lung lobes were diffusely and completely covered with yellowish, firm nodules of size ranging between 0.5 to 3.5cm in diameter. The nodules were well circumscribed with irregular borders, vascular and often coalesced with one another to form bigger nodules of up to 5cm in diameter, which extended deep into the lung parenchyma. Cut section revealed similar findings within the lung parenchyma with some nodules having soft, necrotic and haemorrhagic centre. There was pleural adhesion of some nodules onto the thoracic walls. Apart from the nodular lesions, the remaining parts of the lungs were severely congested.

Similar nodular lesions were also observed diffusely scattered in the uterus particularly at the bifurcation of the uterus. Most nodules coalesced into bigger mass and appeared like a bunch of grape that extended into and partially obstructed the lumen. The uterine mucosa was congested and thickened.

Microscopic examinations revealed that most alveoli were obliterated with the neoplastic cell proliferation which appeared as columnar cells with basally located rounded or oval nuclei. The neoplastic cells were arranged in circular pattern, projected into and obliterating the lumina (Fig. 1). Some blood vessels were scantily filled with the tumour cells. Focal areas of coagulative necrosis were observed in some affected alveoli particularly at the centre of the nodule.

Similar neoplastic cells were observed lining the uterine mucosa particularly at the endometrial glands. There were evidence that the neoplastic cells had infiltrated the tubules and interstitium of the kidneys.

Based on the microscopic examinations of the lesions, the tumour in uterus, lungs and kidneys was diagnosed as uterine adenocarcinoma. Lesions in the lungs and kidneys were the results of metastatic dispersion of neoplastic cells from the uterus.

Lungs has been identified as one of the organs most frequently affected with metastatic tumour secondary to neoplastic growths in other organs such as the uterus. This is because the lungs are anatomically an effective filtering organ with numerous small

capillaries, which can easily trap tumor emboli. Furthermore, blood from various parts of the body passes through the lung for gas exchange predisposing the lung to the various tumour emboli that travel within the bloodstream from various primary sites (Misdorp, 1990; Novak, 1994).

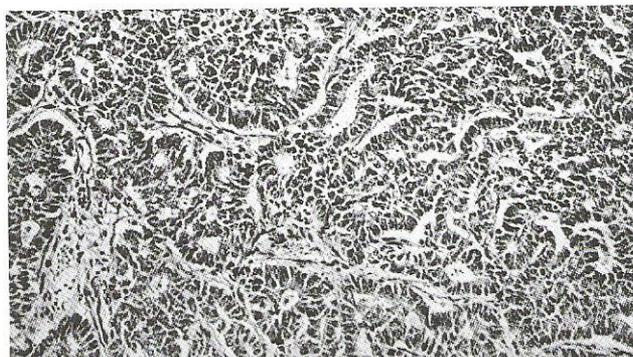


Fig. 1. Photomicrograph of the lungs of the affected rabbit showing columnar-shaped tumour cells that project and obliterate the alveolar lumina. HE x500

The extent of the tumour growth in the lungs of this rabbit was considered severe since almost all lung lobes were being infiltrated and replaced by the neoplastic cells. This led to a marked reduction in the efficiency of gas exchange, reducing the oxygen levels to tissue and eventually hypoxia. The effect of hypoxia was clearly shown by dyspnoea and cyanotic mucous membranes. Death resulted from the respiratory failure.

S. Jasni, M.M. Noordin, M. Zamri-Saad, U. Chulan and M. Lydia

Faculty of Veterinary Medicine and Animal Science
Universiti Putra Malaysia, 43400 Serdang, Selangor,
Malaysia

REFERENCES

- Misdorp, W. (1990). *In: Tumours of Domestic Animals*. Moulton, J.E. (ed.), University of California Press. pp1-18.
- Novak, T.J. (1994). *In: Essentials of Pathophysiology. Concepts and Application for Health Care Professionals*. Wm. Brown Publishers. pp118-149.