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Feline mammary tumours, is there a difference?

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Incidence

Mammary tumours occur less frequently in cats than in dogs. It is estimated that the incidence in cats is approximately half of that of dogs and humans. Mammary tumours in cats are much more frequently malignant than in dogs with approximately 80% being malignant. The effect of ovariectomy in preventing the occurrence of mammary tumours is also present in the cat as in the dog, however it is not as strong.

The fact that oestrogen receptors were only found in about 10% of mammary tumours in cats (versus approximately 60% in dogs) may account for this difference. Many feline mammary tumours appear to be attached to the skin and may be ulcerated.

Lymph node invasion is frequently present. Several studies have shown metastases to be present in approximately 80% of cats with mammary tumours. The main organs of metastasis are the lymph nodes, the lungs and the pleura. Mammary tumours should be differentiated from mammary hyperplasia.

Mammary hyperplasia

Hyperplasia may be lobular or fibroepithelial. Lobular hyperplasia occurs usually in older cats and is palpated as a mass in one or more glands (enlarged lobule with a cystic dilated duct).

Fibroepithelial hyperplasia usually occurs in young cats in cyclus or pregnant cats. The glands are diffusely enlarged, oedematous and reddened.

Hyperplasia is thought to be caused by hormonal stimulation of the glandular tissue.

Clinical signs

Tumours are often presented to the veterinarian at an advanced stage with ulcerated masses found in a quarter of the cases. In more than half the cases several different glands are involved. In some cases extensive involvement of the lungs or pleura may cause respiratory distress Pleural carcinomatosis may cause a pleural effusion containing malignant cells.

Surgical treatment

Radical mastectomy is the method of choice for treating mammary tumour in cats and consists of removal of all the mammary glands and lymph nodes on the affected side.

Surgical principles:

- Cats usually only have 4 pairs of mammary glands
- Always perform complete unilateral or bilateral mastectomy
- Remove fascia, if the tumour is fixed to the underlying fascia and muscles
- Bilateral mastectomy may be staged (6 weeks apart) or simultaneous
- The inguinal lymph nodes is usually automatically removed with the fourth gland
- Remove axillary lymph nodes only if enlarged or cytologically positive for tumour

STEP BY STEP DESCRIPTION OF AN UNILATERAL MASTECTOMY

An elliptical incision is performed around the 8 mammary glands with a minimum of 1 cm from the tumour. The incision is continued through subcutaneous tissue to the external fascia of the abdominal wall. Superficial haemorrhage is controlled with electrocoagulation, haemostats and/or ligation. An en-bloc excision of the mammary glands is performed by elevating one edge of the incision and separating subcutaneous tissue from the muscle fascia by using a smooth gliding motion of the scissors (Metzenbaum).

Use traction on the elevated skin to facilitate dissection. The inguinal fat pads are to be removed containing the inguinal lymph nodes. The fascia is excised if the tumour has invaded underlying tissues and a portion of the body wall is removed if the tumour has invaded the musculature.

The gliding scissor dissection is continued until major vessels are encountered: these are the cranial and caudal superficial epigastric vessels. Both vessels pairs need careful isolation and ligation.

The specimen is removed and the skin advanced toward the centre of the incision if necessary using walking sutures (see Figure 1). The skin edges are apposed with a subcutaneous suture pattern, tacking the subcutaneous tissue to the underlying fascia. The skin is closed with appositional skin sutures.

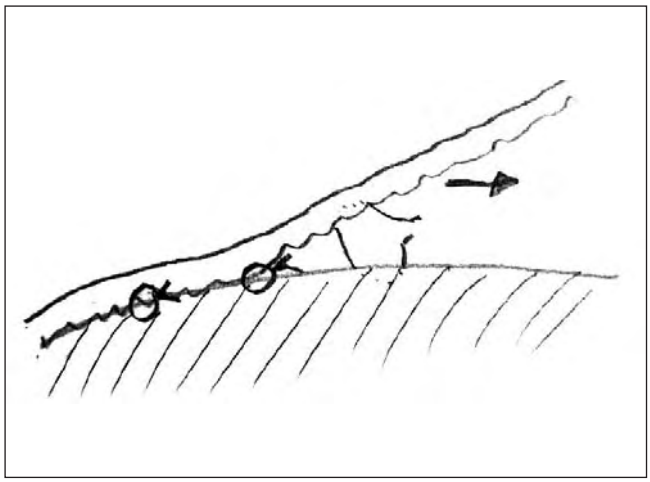

***Figure 1** - "Walking sutures".*

Postoperative care

Most often antibiotics are not indicated after mastectomy except when long surgery times are obtained. Pain management is in order to facilitate recovery. The use of bandages are ill tolerated by cats in general and often a simple e-collar will do the trick. Reevaluation should be planned every 3-4 months to check for for local recurrence and metastases.

Prognosis

Important predictors of prognosis in both cats and dogs are tumor size (< 2 cm^3 has a significant better prognosis), tumor type, tumor stage and ulceration.

Reference

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