



## Mast Cell Tumour

Mast cell tumours are rare; comprising 4% of equine neoplasms in the United Kingdom and 3% in North America. They usually present as a solitary mass in the skin. Predispositions to this disease are thought to exist within male horses (stallions and geldings), and Arabian & Cob breeds.

The disease is sometimes called mastocytosis or mastocytoma.



### Forms of Mast Cell Tumour

Form	Frequency	Progression	Localization
Cutaneous nodular	Relatively common	Benign: Slow expansion or static; Sudden rapid growth possible	Head (ears, skin around eyes) Trunk Limbs
Malignant	Rare	Malignant: Local invasion, metastasis	Limbs: around carpus and hock joints
Congenital (newborn foals)	Very rare	Benign: Spontaneous regression in around 30 days	Trunk and hindlimbs

### Appearance

- Solitary mass (rarely multiple masses and sometimes in clusters)
- Limited to skin or subcutaneous tissue (rarely in muscle or bone)
- Diameter: 0.5-20cm
- Firm to fluctuant, usually firm and immovable in the legs
- Well-demarcated



- Skin can be normal, hairless, or ulcerated
- Often granular mineralisation (“gritty”)

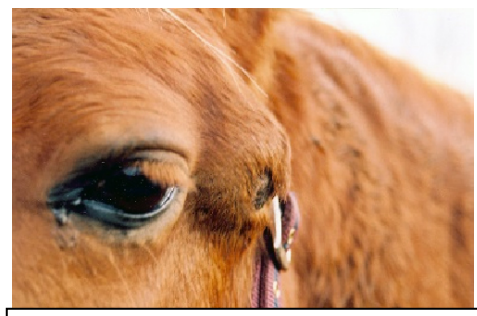
In limbs, they are usually found around joints (knee, hock, fetlock, pastern) without affecting the joint itself. A few Mast Cell Tumours are “itchy” and can be misleading – this might be due more to the aggregations of eosinophils in the tumours. Allergic reactions due to manipulation of the masses are not described in horses.



Mast cell tumour on the upper lip



A very itchy mast cell tumour on the leg



Mast cell tumour beside the left eye

## Diagnosis

The preferred option is to examine the tumour under a microscope after surgical removal. Other options include: fine needle aspirate, impression smears, biopsy.

Characteristics of histopathology:

- Aggregations of mast cells, eosinophils, fibrinoid necrosis of collagen, and occasionally mineralization
- Variable number of mitotic figures in mast cells
- Large inflammatory reaction surrounding the mass

How to differentiate mast cells:

- Round, polyhedral or oval cells with eosinophilic cytoplasm containing grey-blue intracytoplasmic granules
- Confirmation
  - Granules labelling with metachromatic stains (i.e. toluidine blue or Giemsa)
  - Immunohistochemical labelling: CD117, KIT



Differential diagnosis:

- Calcinosis circumscripta
- Mineralizing granuloma
- Eosinophilic dermatitis
- Fungal granuloma
- Habronemiasis or onchocerciasis
- Other neoplasms: sarcoid, squamous cell carcinoma, melanoma, lymphoma, plasmacytoma

### Treatment and prognosis

The best approach of treatment is complete surgical removal with wide margins. Chemotherapy or radiation can be useful adjunctive measures in some cases. Intralesional corticosteroids can be useful to decrease inflammatory reaction. Intralesional injection of sterile water or cisplatin have been described as effective in some cases.

The prognosis for the common benign form is generally good, which is in some contrast to other species such as the dog. Malignant forms have a much more guarded prognosis.

Usually no recurrence

occurs after removal.



### Acknowledgements

*This page on Mast Cell Tumour information has been prepared by Dr Marta Recreo, DVM, PhD, DACVIM, MRCVS[1]*

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*[1] Dr Marta Recreo, Clinician in Equine Medicine and Research Associate*

*School of Veterinary Medicine*

*College of Medical, Veterinary and Life Sciences*

*University of Glasgow*

*464 Bearsden Road*

*Glasgow G61 1QH*