

## NOVEL ASPECTS OF THE CANINE MAST CELL TUMORS

Emilia BALINT<sup>1</sup>, Nicolae MANOLESCU<sup>1</sup>, Cătălin MICȘA<sup>1</sup>, Irina FIRSA<sup>2</sup>

<sup>1</sup>Faculty of Veterinary Medicine in Bucharest, 105 Independetei Lane, District 5,  
Zip Code 050097, Bucharest, Romania, Phone: 021.318.04.69, Fax: 021- 318.04.98;  
emilia\_balint@yahoo.com; nicolaemanolescu@yahoo.com; mescatalin@yahoo.com

<sup>2</sup>Romanian Academy, 285 Mihai Bravu Avenue, District 3, Zip Code 030304, Bucharest, Romania,  
Phone:+40-(0)21-212-8640, Fax:+40 (0)21-312-0209; irina.firsa@yahoo.com

Corresponding author email: emilia\_balint@yahoo.com

### Abstract

*The authors present the morphological and clinical casuistry of canine mastocytoma diagnosed and treated in the last few years at the Clinics of the Faculty of Veterinary Medicine in Bucharest.*

**Keywords:** diagnosis, mastocytoma, therapy.

### INTRODUCTION

The scholarly literature (Baba, 2002; Hottendorf, 1968 1969; Magnol, 1990; Patnaik, 1982, 1984; Standard, 1978; Toulemonde-Bassede, 1986) sets the frequency of canine mastocytoma at 4% of the total oncological manifestations in dogs. The localization of mastocytoma may be cutaneous or visceral. This type of tumour usually metastasizes to the lymph nodes, liver and kidney. Mast cell leukaemia has also been described.

The analysed morphological and clinical forms were as follows:

- with mature cells;
- with intermediately differentiated cells;
- with anaplastic cells.

Regardless of the cellular form of the mastocytoma, the frequency of dividing cells is considerably high.

### MATERIALS AND METHODS

Within the oncological casuistry at the Medical Clinic of the Faculty of Veterinary Medicine in Bucharest, during 2008 – 2014, out of 931 cancer cases, the type of cancer identified as mastocytoma was diagnosed in a number 17 cases, with a clear dominance of the cutaneous form.

The mastocytoma diagnosis was given on the basis of the morphological and clinical aspect, complemented by fine needle aspiration for cytomorphological examination. The staining employed was May-Grünwald-Giemsa.

A special mention is due to the identification of a cutaneous mastocytoma form that has metastasized in the mammary gland parenchyma.

### RESULTS AND DISCUSSIONS

In our casuistry, canine mastocytoma registered a frequency of 1.8%, which,

compared to the data provided by the scholarly literature, representing half of the announced and published frequency. The 17 cases diagnosed with mastocytoma had the following topographical distribution:

- Cutaneous form – 9 cases, representing 55% of the total number of mastocytoma diagnosed cases;
- Mucosal form – 1 case, representing around 5.5% of the total number of mastocytoma diagnosed cases;
- Subcutaneous form – 3 cases, representing around 15% of the total number of mastocytoma diagnosed cases;
- Lymph node metastasis (without the identification of the primary tumour) – 1 case, representing around 5.5% of the total number of mastocytoma diagnosed cases;
- Mast cell leukaemia - 1 case, representing around 5.5% of the total number of mastocytoma diagnosed cases;
- Metastasis in somatic cavities – 2 cases, representing around 11% of the total number of mastocytoma diagnosed cases.

The average age at which the disease develops, according to our statistics, ranges between 8 and 14 years. Out of our total casuistry, this range was attributed to 70% of the cases.

Concerning the matter gender predisposition, the dominating prevalence is registered in males.

The breeds most commonly affected are boxer, german shepperd and mixed breed dogs, registering three cases for each of the previously mentioned.

Investigations have shown that the prevalent cytomorphological form is that of malignant mastocytoma with mature cells, having a low mitotic index. Nevertheless, even this type of neoplasm had shown a high level of aggressiveness. The anaplastic forms with blast mast cells (and precursor cells) are rarer; these register a high mitotic index and consequently a higher level of aggressiveness.

As a special note in canine mastocytoma, we have identified two morphological and clinical forms:

- cutaneous mastocytoma metastasis in the mammary gland parenchyma and
- mast cell leukaemia.

## CONCLUSIONS

Mastocytoma is a tumoral form of the connective tissue which registers a moderate frequency in canine specie (1.8% of the total malignant tumours diagnosed at the Clinics of the Faculty of Veterinary Medicine in Bucharest).

The most frequent morphological and clinical forms form of mastocytoma is the cutaneous form, the mucosal type being extremely rare; Mast cell leukaemia is an extremely rare form of malignant haemopathy;

The cutaneous mastocytoma metastasis in the mammary gland parenchyma was a surprise diagnosis as it has not been described in the scholarly literature.

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