Immunologic Treatment of intraocular melanoma after enucleation to avoid metastatic melanoma

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Purpose

Two dogs underwent an enucleation because of a malign process in the posterior section of the eye. The pathologist reported no clean margins in the histological sections. To avoid metastatic disease the dendritic cell therapy was started soon after the surgery.

Material/method

1ml whole blood per kg of body weight was taken from the dogs. Following a centrifugation and adherence phase a monocyte fraction was obtained. These monocytes were cultivated in a cleanroom environment with canine cytokines (GM-CSF and IL-4) to derive autologous DCs. The treatment was carried out three times in a monthly interval after renewed blood sampling and cell preparation of the monocytes. The treatment was administered at three anatomical sites: **locally in the area of the surgical field, intradermal in the area of the mandibular lymph nodes and the axillary lymph nodes**.

Results

The dogs live more than two years after enucleation without any sign of recurrence or metastasis of the melanoma.

Discussion

Immunological treatment with dendritic cells derived from monocytes can prevent recurrence/ metastasis of ocular melanoma. Therefore, such a therapy should be considered for malignant eye diseases after enucleation.

Procedure Dog 1

Crossbreed, female, 15 years, 5.6 kg

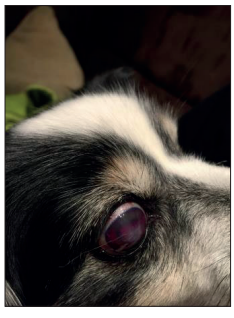
Date	Milestone	Day
06.09.17	Surgery	0
26.09.17	1st Application	20
25.10.17	2nd Application	49
17.11.17	3rd Application	72
28.08.19	Follow-up	721

Recommended initial treatment

Procedure Dog 2

Crossbreed, female, 9 years, 15 kg

Date	Milestone	Day
16.02.16	Surgery	0
07.04.16	1st Application	51
26.04.16	2nd Application	70
01.09.16	3rd Application	198
27.10.16	4th Application	254
04.05.17	5th Application	443
01.09.17	6th Application	563
01.02.18	7th Application	716
12.07.18	8th Application	877
17.01.19	9th Application	1066
02.08.19	10th Application	1263
28.08.19	Follow-up	1289



Dog 1 before surgery

Dog 2 before surgery

Dog 2 after surgery

Recommended treatment procedure

- **Day 0** — Surgery
- **Day 7** — 1st Application with DCs
- **Day 35** — 2nd Application with DCs
- **Day 86** — 3rd Application with DCs
- **Every 150 days** — Follow-up treatments with DCs

Literature

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