

## **ESTROGENIC DEPRIVE IN TREATMENT OF MAMMARY TUMOURS AT DOGS**

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### **Summary**

This study presents the results of ovariectomy as associate method, in mammary cancer treatment. Palliative ovariectomy increases the survival period with 64%, depending of age and tumoural morphologic aspects. Ovariectomy associated to mastectomy in the advanced mammary cancer increases the survival period on the average with 73%. Ovariectomy should precede mastectomy with 3 weeks in associate treatment. Regarding metastasis prophylactic treatment this two surgical interventions should not be done concomitantly.

Epidemiological studies establish the growing frequency of cancer at dogs, as a rule, and of mammary cancer especially (1,2,3,6,9).

Veterinary oncology and compared oncology reveal that from among all the companion animals, the bitch is the most affected of mammary cancer, having a prevalence rate 3 times higher as women (3,4).

Mammary cancer is an hormonal dependent tumour, therefore we effectuated studies of surgical estrogenic deprive to establish if estrogenic hormones are implicated direct in carcinogenesis, or they represent an associate factor.

We establish the role of estrogenic deprive in tumoural development and the correlation between estrogenic deprive and survival period.

### **Materials and methods**

The researche was performed in Surgical Clinic of Veterinary Medicine Faculty Iasi at female dogs with mammary tumours organized in experimental lots. For this lots we used bitches from the same breed, with similar ages, with the same stage of tumoural development and the same localization on the mammary chain of the affected mammary gland, to avoid the influence of this factors.

To establish the palliative effect of ovariectomy we corelated the results with an witness lot.

The advantage of ovariectomy associated with mastectomy was establish performing the ovariectomy and mastectomy on the experimental lot and only mastectomy on the witness lot.

### Results and discussions

Fighting with mammary cancer impose finding an adequate treatment, having in view clinical stage and morphological aspects.

Because ovarian hormones can increase the mammary carcinogenesis, we experimented the estrogenic deprive by surgical ovariectomy associated with mastectomy.

Palliative effect of ovariectomy at bitches with mammary cancer is centralized in table 1.

**Table 1**

**Palliative effect of ovariectomy in advanced mammary cancer**

Lot	Female	Size and localization of tumour	Evolutive stage	Survival period in days
Witness	Caniche, 9 years	M3 6cm	III	71
	Common bread, 6 years	M4, 3cm M5, 4cm	III	129
	Common bread, 8 years	M4 5cm	II	301
	German Shepard Dog, 7 years	M5 4cm	III	176
	Common bread, 7 years	M3, 2cm M4, 3cm	II	208
Ovariectomy	Caniche, 8 years	M2 4cm	III	183
	Common bread, 8 years	M5 5cm	III	210
	Common bread, 7 years	M4 4cm	II	397
	German Sheperd Dog, 8 years	M5 4cm	III	291
	Common bread, 8 years	M3, 2cm M4, 4cm	II	380
Lot average		Witness 177 ± 38		
		Ovariectomy 292 ± 47		
p ≤ 0,05				
Percentages of increase 292:177=64%				

Dates from table 1 reveal that ovariectomy of bitches with mammary cancer increase the survival period. In witness lot the increase was with 177±38 days with limits between 71 and 301 days, depending of age and general status. The increase of survival period following ovariectomy in experimental lot was of 292±47 days, with limits between 183 and 397 days.

Although the experiment was effectuated on bitches older than 6 months, in II<sup>th</sup> or III<sup>th</sup> clinical stage, the ovariectomy increase the survival period with 64%.

Regarding the role of ovariectomy with mastectomy we compare the witness lot with the experimental lot and centralize the results in table 2.

Dates from the table 2 reveal the advantage of ovariectomy associated with mastectomy in treatment of mammary cancer.

The increase of survival period following mastectomy at bitches with II<sup>th</sup> or III<sup>th</sup> stage of mammary cancer, was variated between 62-108 weeks, with an average of 87 weeks, depending of individual factors.

By associating ovariectomy with mastectomy we increase the survival period with an average of 151 weeks, variating between 128-176 weeks.

**Table 2**

**Indirect hormonotherapy in mammary cancer**

Lot	Female	Size and localization of tumour	Evolutive stage	Survival period in weeks
Mastectomy	German Shepard Dog, 9 years	M1, 3cm M3, 3cm	II	108
	Pechinez, 9 years	M4 5cm	III	71
	Caniche, 11 years	M4 4cm	III	96
	Pinscher, 8 years	M3, 2cm M4, 4cm	III	62
	Setter, 10 years	M5 5cm	II	99
Ovariectomy + Mastectomy	Pechinez, 9 years	M4 4cm	III	147
	German Shepard Dog, 9 years	M1, 2cm M3, 4cm	II	176
	Pinscher, 9 years	M3, 3cm M4, 3cm	III	141
	Setter, 11 years	M5 5cm	II	128
	Caniche, 10 years	M4 4cm	III	163
Lot average		Mastectomy 87 ± 8,77		
		Ovariectomy *Mastectomy 151 ± 8,42		
p ≤ 0,001				
Percentages of increase 151:87=73%				

Statistics reveal that ovariectomy associated to mastectomy in the advanced mammary cancer increases the survival period on the average with 73% in experimental lot.

Ovariectomy should precede mastectomy with 3 weeks in order to prevent the contamination of the abdominal cavity. Regarding metastasis prophylactic treatment this two surgical interventions should not be done concomitantly.

The results of this study demonstrate that ovariectomy as palliative or associate method is more economic than antiestrogenic drug administration.

### Conclusion

1. Because mammary cancer is an hormonal dependent tumour, surgical estrogenic deprive increase the survival period.
2. Ovariectomy is the surgical procedure to estrogenic deprives and can be palliative or associate with mastectomy
3. Palliative ovariectomy increases the survival period with 64%
4. Ovariectomy associated to mastectomy in the advanced mammary cancer increases the survival period on the average with 73%
5. Ovariectomy should precede mastectomy with 3 weeks in order to prevent the contamination of the abdominal cavity
6. Ovariectomy as palliative or associate method is more economic than antiestrogenic drug administration

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