

CANINE MAMMARY GLAND TUMORS AND THE EFFECT OF OVARIOHYSTERECTOMY



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OBJECTIVES

- Point 1: Discover what is the optimal effect of the ovariectomy.
- Point 2: Discover the role of estrogens, specifically estradiol.

CAUSES

Hormonal
effect
GH IGF-I
Estrogen
progesterone

Genetic
predisposition
p53 c-erbB2
BCRA1

Diet
↑ protein
↓ lipid ✓

TUMOR PROCESS FORMATION

Estrogens + Progesterone

- Increase the growth fraction.
- Induce epithelial proliferation, resulting in an increase size.

Estrogens

- Promoters of cancer cells of the mammary gland.
- Increase the proliferation rate by recruiting cells that do not enter apoptosis.

THE ESTROGEN EFFECT

- 60-77% of canine mammary tumors have estrogen receptors.
- Benign and well-differentiated tumors □ more likely to be RE positive.
- In the sterilized groups, it was observed that there was a benefit in high E2 levels and RE positive tumors.
- Estradiol concentrations are considered as a predictive marker of the effect of hormonal ablation

HISTOPATHOLOGY OF TUMORS: EVOLUTION OF THE TUMOR

- Association of size with tumor malignancy.
- According to histological samples, very few carcinomas have been observed with de novo development, they come from pre-existing lesions of benign tumors.

EFFECT OF OVARIOHYSTERECTOMY

- Many breast tumors have hormone receptors.
- Only hormone receptor dependent tumors have been confirmed to benefit from ovariectomy.

AT THE TIME OF TUMOR REMOVAL IN DOGS WITH BENIGN MAMMARY TUMORS AND HYPERPLASTIC LESIONS

- Are at half risk of developing new tumors compared to intact bitches.
- The protective effect appears 5 months after the OHE and increases after 2 years.

AT THE TIME OF TUMOR REMOVAL IN DOGS WITH MAMMARY CARCINOMAS

High
concentrations
E2

Grade 2
tumors

ER +

CONCLUSION

- 1 Bitches containing more than 35 ng / mL estradiol along with grade 2 tumors and estrogen receptors, ovariectomy provided them with a greater survival benefit.
- 2 About estradiol, it has a double effect: on the one hand, it is a driver of carcinogenesis by binding to estrogen receptors, and on the other hand, it inhibits the formation of tumors (only in ovariectomized bitches).
- 3 There are still doubts about the effect of estrogen. More research is needed to study the effect of estrogen on gene expression and thus be able to understand the complexity of the hormone.