



## SURGICAL REPORT: PARTIAL BILATERAL MASTECTOMY AND CASTRATION IN A DOG

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### Abstract

The surgical performance in animal patients affected by carcinoma is justified by the search for the subjects quality of life. Surgical intervention is possible due to the current technical quality now available for veterinarians. Since carcinoma is a pathology, often of rapid evolution, the readiness to carry out the a surgical intervention as soon as possible is confirmed. In the specialized literature, castration also aims to minimize the occurrence of this pathology, being therefore indicated for tutors. This report covers a reality that is quite common within current veterinary medicine, where the patient is subjected to a partial mastectomy that involves castration. We conclude by establishing the importance that veterinary medical professionals have in maintaining animal welfare and the importance of trusting tutors when their PETs become subject to pathologies.

**Keywords:** Mastectomy. Castration. Animal welfare.

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## 1 Introduction

For animal patients affected by several types of carcinomas, surgical intervention is presently recommended. The importance of submitting PETs to surgery, in particular in cases of advanced stages of cancer, is justified for improving quality of life and due to the present technical quality of the professional veterinarians available for these interventions (ESTRALIOTO; DE CONTI, 2019).

Carcinoma is a critical pathology that evolves very rapidly in most observed cases. Willingness to submit affected PETs to surgery as fast as possible thus arises (ESTRALIOTO; DE CONTI, 2019).

Castration, among other objectives, also serves to reduce the probability of animals to develop cancer. Castration is thus recommended for tutors not wishing that their PETs reproduce, due to this beneficial side effect (DIAS et al., 2016).

This academic report describes a presently common procedure in veterinary science. The animal patient was affected by a rapidly developing mammary carcinoma. A mastectomy became necessary and urgent, while castration was highly recommended by all professionals consulted. The animal was thus submitted to partial mastectomy and castration.

## 2 Methodology

The present report is based on procedures followed in a specialized clinic, under the guidance and survey of duly qualified professionals, in order to guarantee success for the canine patient. Our aim is to produce a pedagogical account for students in veterinary sciences (GIL, 2008).

## 3 Academic surgical report

Name of surgery: Partial bilateral mastectomy + castration.

The present case involves a female pit-bull ten years old, that presented a cranial and caudal abdominal increase of the mammary glands. The animal was submitted to a surgical procedure for the extraction of the affected mammary mass, ovary, and uterus. For pre-anesthesia, intravenous fentanyl + ketamine was used, followed by intravenous propofol. The anesthetized animal was monitored for respiration, palpebral reflex, and centralization of ocular globe, during the entire operative procedure.

Trichotomy was made with a shaving machine and a shaving blade. The intravenous propofol was used to intubate the animal through anesthesia with isofuran, fentanyl and ketamine, applied continuously with a syringe pump. With the animal in sternal decubitus, epidural anesthesia was achieved with lidocaine. The animal was then placed in dorsal decubitus in order to sterilize the region in three steps.

1. Gauze was used to spread degarmant PVPI over the entire region; 2. Alcohol was used to remove the degarmant PVPI; 3. PVPI 10% was applied.

During operation, an incision was made with a scalpel through the subcutaneous tissue of the inguinal mamma and extending to the caudal mamma. With the help of a pair of scissors the subcutaneous and abdominal fascia of tissues were widespread and the blood vessels were located and then clamped to void bleeding. These vessels were later bonded with catgut line 1-0 or electro-coagulated.

The procedure was continued backwards to the thoracic caudal mamma, where it was possible to remove the conspicuous masses. During the same procedure, an ovariosalpinx-hysterectomy was possible. As the superficial layers were already widespread, the linea alba was located and an incision was made with the help of a scalpel. By opening the abdominal region, the right uterine cone is located and exposed. An orifice was made on the large caudal ligament, the ovary pedicle was pinched, and a resorbable thread was used to bind the organ with the help of another clamp. The uterine cone was incised between the clamp and the ligature. After ensuring that no bleeding was present, the proximal clamp was removed. The same procedure was followed on the left side. Tissues were pulled gently with the hand in order to better expose the cervix and to remove the entire organ. The cervix was then sewn.

For the suture of muscles, nylon thread 0 was used. Sutures were made X-shaped. The abdominal space was compressed and two drains were inserted where the two sides of the X incisions meet. For binding of the skin, nylon thread 0 was also used and the so-called Wolff suture was interrupted.

No anesthesia complications occurred, but some bleeding spots were detected and promptly occluded. After surgery, daily asepsis of the entire abdominal region was maintained. The animal patient remained interned for observation. The dog reacted well from the first day onwards, resumed feeding, and responded following the expected pattern.

## 4 Discussion

There are many surgical techniques aimed to save animal patients, to provide cures for common maladies, and to provide a better quality of life for the affected patients (QUEIROZ et al., 2013).

Synchronicity of actions among veterinarians during operation is notorious, accounting for the large number of successful interventions (LOPES; LIEBSCH; LEAL, 2021). Preparation of the operating surroundings in order to avoid or reduce contamination is essential. Such precautions are often stressed as responsible for positive outcomes (LOPES; LIEBSCH; LEAL, 2021).

The suitability of the clinic and the integrity of all its components are also incontestable factors for the development and improvement of surgical actions. Constant updates and frequent participation in courses for the administrative agents, employees, and veterinarians are necessary complementary actions (LOPES; LIEBSCH; LEAL, 2021).

For a more effective and consistent academic formation, reports such as this should represent the basis for the continuous reevaluation of surgical acts, techniques, actions and reactions of the animal patient, and interactions among all members involved in surgical events. Such attitudes should enhance individual and collective improvement necessary for the best results, and especially for the wellbeing of our animal patients.

## 5 Conclusions

Good preparation, relevant anamnesis, perfect interaction among veterinary doctors and all members of the team participating in a surgery and, last but not least, a good interaction with the animal tutor, represent positive triggers for high-quality surgeries with excellent results.

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## CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

GDD, through her actions and research, carried out the practice and writing of the article. GDF, having the experience and practice of specialized surgical and pedagogical action, he carried out the methodology and writing of the article, together with the review of the data used. MLC, based on experience and accuracy in the English language, was responsible for the translation.

## DECLARATION OF INTEREST

The authors declare that they are not subject to any type of conflict of interest with the participants or any other collaborator, directly or indirectly.

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