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# Dynamics of Blood Glucose Following Mammary Tumor Surgery in Cats

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**Abstract:** Between November 2025 and January 2026, 18 cases of mammary tumors in cats were recorded, most of them in females older than 8 years (50–62.5%). The 5–8 year age group ranked second in frequency, while no cases were observed in cats under 3 years of age. Most affected cats were unspayed (66.6%).

Additionally, hypoglycemia during estrus may occur as a result of hormonal fluctuations and increased metabolic demands, influencing glucose metabolism and insulin sensitivity.

**Keywords:** breast tumors, cat, hypoglycemia.

## • Introduction

Mammary tumors in cats are among the most common neoplasms, mainly affecting older females. They arise in the mammary glands and are usually malignant, with rapid progression and high metastatic potential. Key risk factors include hormones, age, breed, and especially lack of sterilization, while early ovariohysterectomy has a strong protective effect. Their clinical importance is high due to both their frequency and their similarities to human breast cancer.

## • Material and method

- The diagnostic process follows a logical sequence: medical history → clinical examination → paraclinical investigations.
- Medical history provides key data: health status, breed, age, reproductive status (spayed or not), mating history, number of litters, and hormonal treatments.
- Clinical examination (inspection and palpation) evaluates tumor characteristics: size, shape, consistency, location, adhesion, and local temperature.
- Paraclinical investigations are essential for confirming diagnosis, staging the disease, and guiding treatment decisions.
- Chest radiography is commonly used to detect pulmonary metastases in cats with mammary tumors.

## • Results

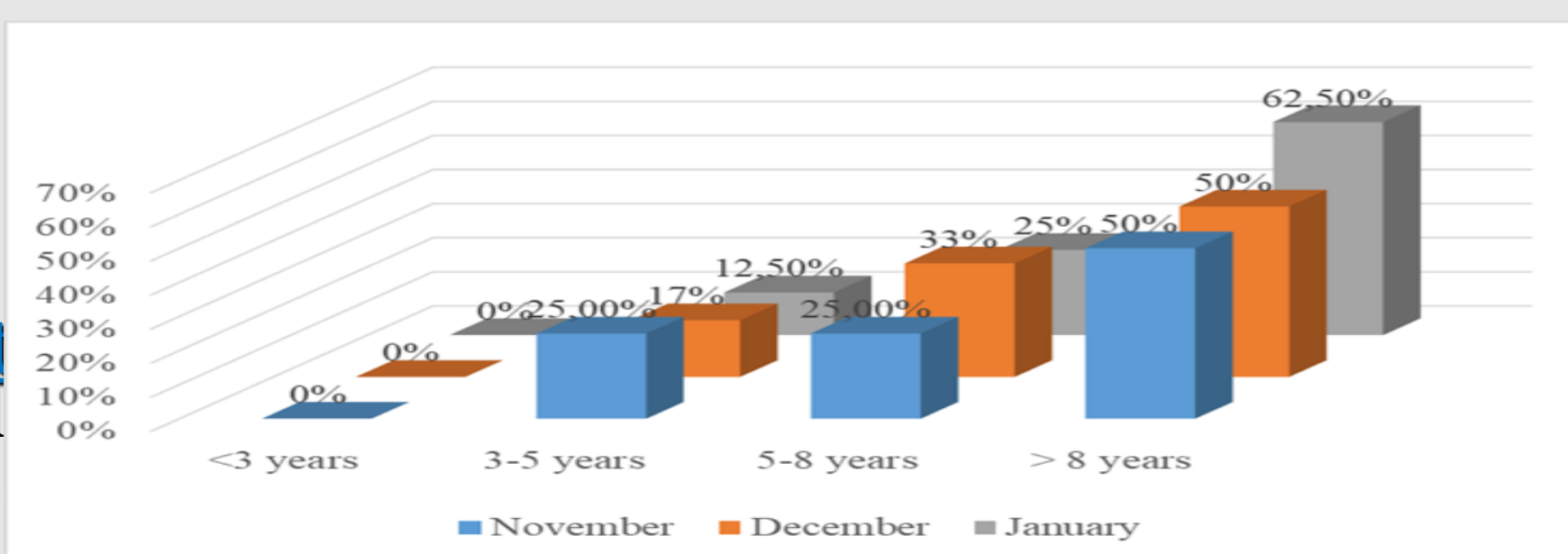
Between November 2025 and January 2026, a total of **18 female cats** were diagnosed with mammary tumors (4 cases in November, 6 in December, and 8 in January).

## • Age Distribution

Most cases occurred in females **over 8 years old** (50–62.5%), followed by the **5–8 year** group, while **no cases were recorded under 3 years**.

Age	Cases in November		Cases in December		Cases in January	
	No.	%	No.	%	No.	%
<3 years	0	0	0	0	0	0
3-5 years	1	25,0	2	33,3	1	12,5
5-8 years	1	25,0	2	33,3	2	25,0
>8 years	2	50,0	3	50,0	5	62,5
Total	4	100	6	100	8	100

Table 1 (Age distribution).



## • Reproductive status

A higher incidence was observed in **spayed females** (66.6%) compared to unspayed females (33.3%).

Total females with mammary tumors	Reproductive status of females			
	Castrated		Not castrated	
	No.	%	No.	%
18	6	33,3	12	66,6

Table 2 (Reproductive status).

## • Conclusions

Postoperative management of feline mammary tumors involves a combined approach of **surgery, medication, and regular monitoring**. Key priorities include **pain control, prevention of infection, proper wound care, and protection of the surgical site** to ensure optimal healing and recovery.

## • References:

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## • Breed Distribution

The most affected breeds were: Birman – 38.8% ; Siamese – 22.2% ; Russian Blue – 16.6% ; British Shorthair – 11.1% ; Persian & European Shorthair – 5.5% each.

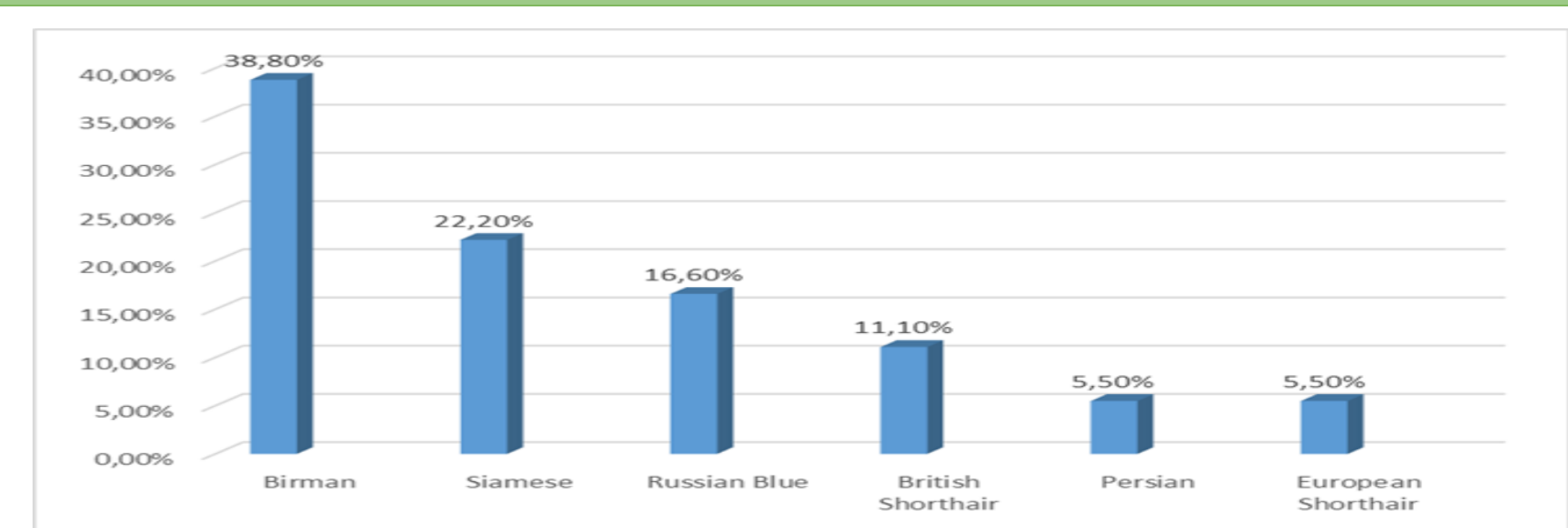


Figure 2 (Breed frequency).

## • Glycemic Findings

Among 12 evaluated cats:

- **41.6%** – normoglycemia;
- **33.3%** – mild hyperglycemia ;
- **25.0%** – severe hyperglycemia.

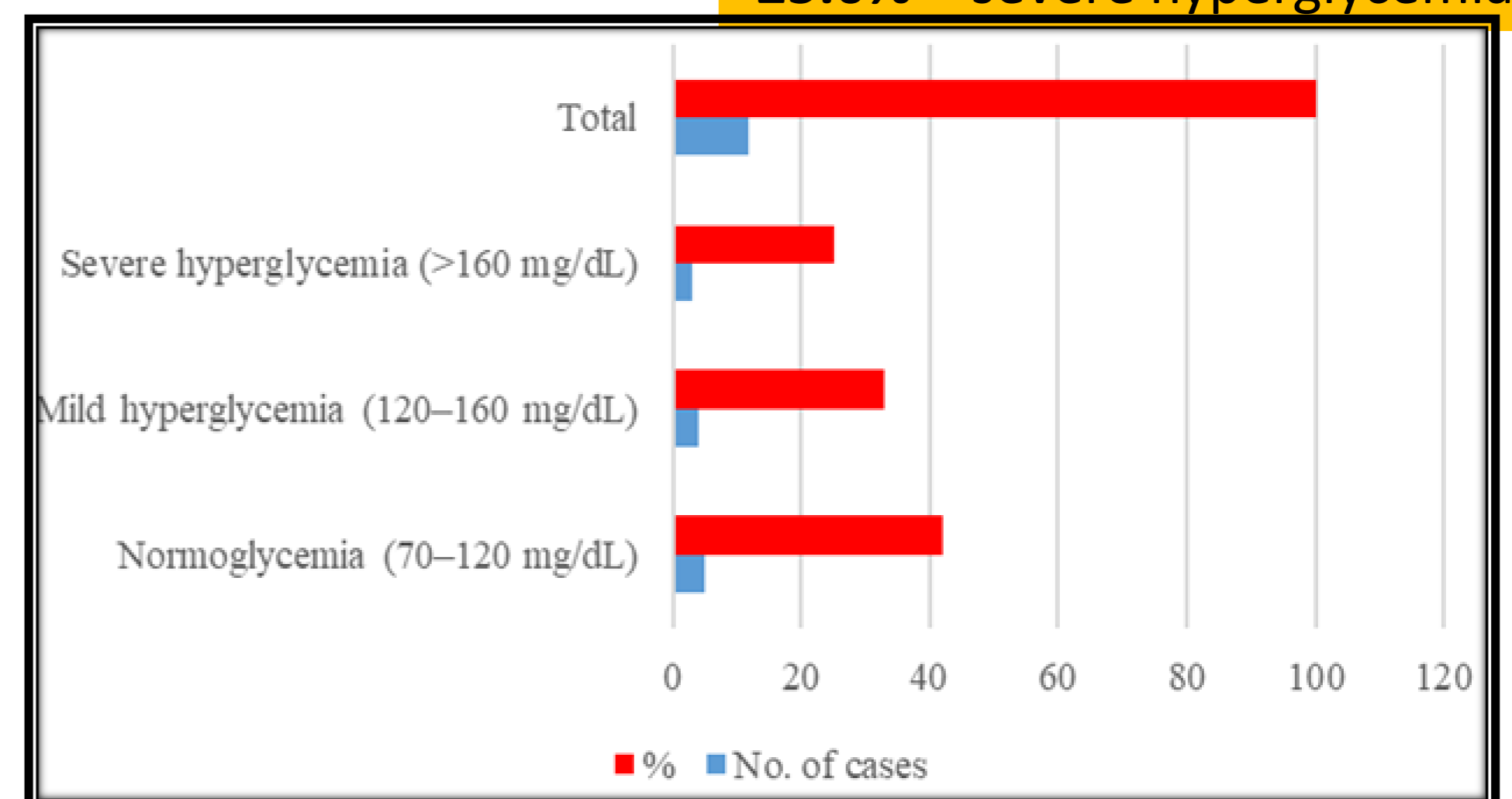


Figure 3 (Glycemic distribution).

## • Additional Observations

Most tumors were diagnosed in **early stages (I-II)**. Improved detection and owner awareness may explain increased case identification. Postoperative care focuses on **infection prevention, healing, and reducing recurrence risk**. Preliminary data suggest a **possible link between hyperglycemia and tumor development**, requiring further investigation.

## • Discussion

- Mammary tumors are mainly driven by **hormonal factors**, and repeated heat cycles increase risk.
- **Early spaying** significantly reduces tumor risk, while late or no sterilization increases it.
- **Estrogen and progesterone** promote tumor growth and development.
- **Age is not a strong prognostic factor**, though older cats may have poorer survival.
- Some breeds (e.g., Siamese) may have a higher predisposition.
- **Endocrine/metabolic imbalances**, including insulin dysregulation, may contribute to tumor progression.