WHAT TO DO WITH LUMPS AND BUMPS: WHY WAIT? ASPIRATE.®
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WHAT IS “SEE SOMETHING, DO SOMETHING. WHY WAIT? ASPIRATE. DR SUE CANCER VET? ®”
“See Something, Do Something” (SSDS) is a lumps and bumps cancer awareness program that provides guidelines for evaluating superficial masses in dogs and cats. We hope these guidelines to increase client awareness will promote early cancer detection and diagnosis, as well as early surgical intervention. In veterinary medicine, most skin and subcutaneous tumors can be cured with surgery alone if diagnosed early when tumors are small.

See Something: If a skin mass is the size of a pea (1 cm) and has been there 1 month,
Do Something: Aspirate or biopsy, and treat appropriately!

WHY DO WE NEED SSDS?
It is well documented that cytologic and histologic evaluations are important diagnostic tools in veterinary oncology and that obtaining a preliminary diagnosis optimizes treatment planning. It is also recommended to evaluate masses that are growing, changing in appearance, or irritating to the patient. At this time, no specific guidelines exist for determining when to aspirate or biopsy or when to monitor canine and feline skin and subcutaneous masses.

Without standard of care guidelines, superficial masses may be monitored for too long. This can negatively impact our patient’s prognosis as well as limit their treatment options. Larger tumors that are diagnosed later may require more advanced treatments. Surgical excision of larger masses may result in less than adequate surgical margins (narrow or incomplete), leading to recurrence and additional costly therapy (second more aggressive local surgery, radiation therapy and/or chemotherapy).

With significant time delays and prolonged monitoring, there may be no reasonable surgical treatment options to remove large advanced tumors. These are often the most frustrating and heartbreaking cases.

WHY DIAGNOSE EARLY?
Obtaining a definitive diagnosis with cytology or biopsy early and before excision will lead to improved patient outcomes for superficial masses. When smaller, superficial tumors are detected early, surgery is likely curative - especially benign lesions and tumors that are only locally invasive with a low probability of metastasis. If tumors are removed with complete surgical margins, the prognosis is often good with no additional treatments needed.

- Visual monitoring is not enough.
- Pet owners need to be aware of the “pea” size requirement to have masses evaluated
- Veterinarians must measure and document the size of the mass in order to compare growth.
- If > 1 cm (or size of large pea) and present for a month, the mass should be aspirated or biopsied.
- Knowing the tumor type prior to the FIRST surgery will increase success of a curative-intent surgery.

WHAT ARE THE MOST COMMON TUMORS?
Primary skin and subcutaneous tumors are common in dogs and cats. While the overall incidence in dogs and cats is difficult to determine, approximately 25 to 43% of biopsies submitted in dogs and cats are of the skin. Of submitted samples, 20 to 40% are reported to be malignant.

The most common malignant skin tumors in dogs are mast cell tumors (MCT) (10-17%), soft tissue sarcomas (including fibrosarcomas [2-6%], malignant nerve sheath tumors [4-7%]), and squamous cell carcinomas (2-6%). The most common benign canine skin and subcutaneous benign tumors include lipomas (8%), histiocytomas (8-12%), perianal gland adenomas (8-12%), sebaceous gland adenomas/hyperplasia (4-6%), trichoepltheliomas (4%), papillomas (3%), and basal cell tumors (4-5%).

In cats, the most common superficial tumors include basal cell tumors (BCT) (15-26%), mast cell tumors (13-21%), squamous cell carcinomas (10-15%), fibrosarcomas (15-17%). These four tumor types make up about
70% of all skin tumors in cats. Sebaceous gland adenomas are much less common (2-4%). If BCT are excluded, the percentage of malignant skin tumors in cats is higher than dogs, with studies reporting 70 to 80%.

IS VISUAL MONITORING ACCEPTABLE?

Even the most experienced veterinarian or oncologist cannot look at or palpate a mass and know whether it is malignant or not. Cancer is a cellular diagnosis! It is always recommended to evaluate masses that are growing, changing in appearance, or irritating to the patient. But these guidelines are not enough. All skin and SQ masses that are >1 cm and have been present for 1 month should be aspirated for cytologic evaluation. Biopsy is indicated if cytology does not provide a diagnosis.

METHODS OF DIAGNOSIS
Aspirate and Cytology

Fine needle aspiration (FNA) and cytology provide a diagnosis for many skin and SQ masses, especially those that that exfoliate well. FNA is useful to distinguish neoplasia from inflammation. Cellular morphology may also allow for the determination of benign or malignant phenotype. FNA is useful for identifying benign masses including lipomas and sebaceous adenomas. For malignant tumors, cytology provides information that assists in formulating diagnostic and treatment plans.

The advantages of cytology include: minimally invasive approach, low risk, low cost procedure, and results are available more quickly than biopsy results. The disadvantages of cytology are that it may be non-diagnostic or equivocal. This may be due to a small number of cells in the sample, poor exfoliation of the cells, or poor sample quality. If the sample is non-diagnostic or equivocal, histopathological confirmation may be required for definitive diagnosis.

Unless the sample is comprised exclusively of only fat, clear cystic fluid, or acellular debris, the sample should be submitted to a trained cytopathologist. WHEN IN DOUBT, SEND IT OUT. Including an adequate history helps the pathologist in diagnostic accuracy.

Biopsy

If cytology is non-diagnostic, a pre-treatment biopsy is recommended PRIOR to complete tumor removal. The pre-treatment biopsy will determine the optimal treatment plan.

The role of excisional biopsy is controversial, even among oncologic surgeons. A practical recommendation for non-diagnostic cytology and the lesion fits in an 8 mm punch biopsy, then PUNCH IT OUT. If the mass is larger than an 8 mm punch biopsy, an incisional biopsy (wedge, tru-cut, punch) is required for diagnostic confirmation.

It is tempting to remove the mass right away. An excisional biopsy establishes a diagnosis and removes the tumor at the same time. However it is not recommended for undiagnosed skin and superficial masses. Malignant tumors often require 2 to 3 cm margins. When an excisional biopsy (or debulking surgery) leads to incomplete margins for malignant tumors, more treatment, more morbidity, and more expense ensue. **Thus removing the mass entirely is not recommended without a cellular diagnosis prior to definitive excision.** Surgical approaches vary with different tumor types. Research confirms that the first surgery is the best chance for a cure.

Staging diagnostics are often indicated prior to curative intent surgery. Consultation with a veterinary oncologist is recommended.

AFTER THE ASPIRATE/BIOPSY
If the mass is benign:

Benign tumors may not need to be removed. A variety of factors, including mass location should be considered. Surgery should be recommended when a benign tumor is causing pain, irritation, bleeding, or infection. Surgery should also be recommended if an increase in growth would prevent a surgery in the future.

Alternatively, if removing the tumor requires a complicated surgery (i.e. near a joint, on the distal limb with minimal surrounding tissue for reconstruction) or the pet has other pre-existing issues, you and the pet owner may make an educated decision as to whether proceeding to surgical removal is warranted. PETS WITH MASSES NOT REMOVED SHOULD BE MONITORED (via measurement) BY THE VETERINARIAN EVERY 3 TO 6 MONTHS.
If surgery is performed, most benign masses require smaller surgeries, as wide margins are typically not needed.

**If the mass is malignant:**

If the aspirate/biopsy reveals malignancy, consult with veterinary oncologist for appropriate staging recommendations. For malignant tumors, the first surgery should be a wide excisional surgery. If wide excisional surgery is not possible due to the size or anatomic location of the mass, consultation with a veterinary oncologist or board-certified surgeon is indicated. Surgeons may be able to perform specialized surgeries such as axial pattern flaps to remove the tumor completely.

Debulking (cytoreductive) surgery should not be recommended, as this will not obtain margins, and additional post-operative treatments such as radiation will be required to prevent recurrence. In some cases, cytoreductive surgery may be performed for palliation, or with an understanding that adjunctive therapy such as radiation therapy will follow the procedure.

**After surgery:**

- Review the histopathology report – tumor type, grade, vascular and lymphatic invasion.
- Consult with a veterinary oncologist for additional therapeutic considerations for malignant tumors.
- Assess the QUANTITY of surgical margins in consideration of tumor type and biologic behavior. (One mm margins for a malignant tumor may be called “clean” on a biopsy report, but size of margins must be considered in light of tumor histology.)
- If margins are inadequate, recommend adjunctive treatment before tumor recurrence for optimum patient outcome. Post-operative options include scar revision (second surgery), radiation to prevent regrowth, or chemotherapy which may slow recurrence in some cases.
- It is important to consult a board certified surgeon before attempting scar revision.
- Monitor for local tumor recurrence and metastasis as indicated by the histologic diagnosis and margin assessment.

**RECURRENT AND MONITORING**

Patients with reported complete surgical margins can potentially suffer tumor recurrence due to microscopic cancer extension that is not seen in the evaluated sections. Therefore, it is essential to monitor for local regrowth, and to recruit the pet owner to monitor the surgical scar as well, to identify early relapse

For malignant tumors with wide, clean margins and low metastatic potential, follow-up rechecks are recommended every two to three months after the surgery for as much as one year of follow up. Early detection is key to addressing recurrence and metastasis to ensure the highest possible chance of success.

**Owners are encouraged to check their pets regularly at home for new masses.**

- Owners should check their pet monthly for superficial masses by noting their location and size.
- Create a “body map” with size and location of superficial masses recorded, along with fine needle aspiration cytology results. This body map can serve as an objective medical record document and owner guide to follow masses longitudinally, and to allow for identification of new masses over time.
- All masses should be aspirated and submitted for cytology. Masses that do not need cytologic assessment include lipomas, cysts, and those containing acellular debris.
- If cytology is non-diagnostic, discuss repeating the aspirate, or proceeding to biopsy.
- **Know the tumor type prior to surgery. The first surgery is your patient’s best chance for cure.**

**SURGERY MAY BE ALL THAT IS NEEDED**

We all must be proactive to advocate for early cancer detection. Visual monitoring of superficial masses is not enough. Obtaining a definitive diagnosis via either cytology or biopsy **early and before excision will lead to improved patient outcomes for superficial masses.** Surgery is likely curative for the majority of these cases, especially for benign masses and those locally invasive malignancies that are non-metastatic. **If tumors are detected and removed earlier – when they are small and with clean margins,** the prognosis is often good and the patient may not require additional therapy.
See Something: When a skin mass is the size of a pea (1 cm) and has been present for 1 month, Do Something: Aspirate or biopsy, and treat appropriately!

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References