MASH
MELBOURNE ANIMAL SPECIALIST HOSPITAL

Neoplasia Assessment

Discovery of lump or mass can be stressful for owners and is one of the most common problems presented to vets. What is the best way to approach the work-up and decision making around a newly identified mass?

A thorough, consistent approach to neoplasia provides the owner with a sense of confidence in their veterinary team and allows the vet to tailor their treatment plan to the specific patient.

Cancer management is all about allowing the owner to make informed decisions. For this we need to provide them with information and explain how it may affect the treatment decisions and prognosis. The owners can then make decisions as to which diagnostic and therapeutic options they would like for their pets.

Ideally, we would like to know about both the mass that has been detected and the risk that disease has metastasised to elsewhere in the body. Essentially what is it, and where is it?

Physical Exam

The physical exam is always the first step in the process and can provide a lot of information that will impact the treatment options and prognosis.

- Where in or on the body is the mass located? This may impact how easy it might be to remove, whether wide margins are possible/practical and give clues to the type of tumour.
- How big is the mass and how rapidly has it grown? Several tumour types have their prognosis linked to the size of the mass.
- Is the mass fixed or mobile? This impacts the ease of removal and prognosis.
- Is it well or poorly demarcated? This will impact the choice of margins when considering surgery.

Biopsy

The biopsy provides specific info on the mass & is one of the biggest pieces of the puzzle when considering prognosis.

The biopsy can provide two pieces of information. Firstly, we can discover the tumour type. Not all tumours behave the same or have the same prognosis so knowing the tumour type massively impacts the prognosis. Secondly, we can get information on tumour grade. Several tumour types have grades that provide additional information as to how aggressive the mass is. Tumour grade impacts the recommended surgical margins (or the surgical dose required), the risk of local recurrence and the risk of distant metastasis.

- **FNA –** provides a sample for cytology. The cytology may provide information on the tumour type but provides no information on tumour grade. FNA is cheap and simple but has the lowest accuracy of the discussed biopsy options.
- **Incisional Biopsy –** if the mass is large and the invasiveness of removing the entire mass is significantly different from taking a tissue sample, then incisional biopsy can be considered. Incisional biopsy provides a sample for histopathology and will yield information on both tumour type and tumour grade. It is highly accurate assuming a representative sample is obtained.
- **Excisional Biopsy –** if the mass is small and the invasiveness of removing the entire mass is not significantly different from taking a small portion then an excisional biopsy can be considered. This involves removing the entire mass with modest margins. Excisional biopsy provides a sample for histopathology and will yield information on both tumour type and tumour grade. If the mass turns out to be benign then excisional biopsy also carries the possibility that it may be curative.

Imaging

Imaging can provide information on the mass itself, such as providing information on what structures are involved, whether there is invasion of adjacent structures etc. However, it is also vital for assessment of potential metastatic disease, known as staging.

The gold standard for tumour staging is whole body contrast enhanced CT and this is the most sensitive modality for detecting metastatic disease. If CT is unavailable or is declined, thoracic radiographs combined with abdominal ultrasound can still provide good staging but is not quite as sensitive as CT.

No method of staging is 100% accurate and it is possible for metastatic disease to be present in the face of negative staging.

When a tumour spreads a few cells break off the primary mass, circulate through the blood or lymphatic system and then lodge elsewhere in the body where they grow into metastatic lesions. At this microscopic stage the lesions are termed micro-metastasis and are undetectable. These metastatic lesions must reach a significant size before they are detectable on imaging when they are termed macro-metastasis.

If detected, the presence of metastatic lesions will significantly impact the prognosis, as curative intent treatment is no longer possible, and additional systemic treatment modalities such as chemotherapy may be required to achieve the best outcome.

Local Treatment Options

Local treatment options involve removing or destroying neoplastic cells in a particular location. The most common and effective local treatment option is surgery. Other options for specific scenarios include radiation therapy, electro chemotherapy or cryotherapy.

When considering surgical treatment options, it is important to be clear as to what the intent of surgery is, (i.e., curative intent or cytoreduction), and how the planned surgical intervention is likely to affect the prognosis, both in terms of quality of life and survival time.

Systemic Treatment Options

Systemic treatment options involve a treatment that is active throughout the body and can destroy neoplastic cells wherever they may be. The most common systemic treatment option is chemotherapy and there are several different protocols described for different neoplasms. Unfortunately, not all tumour types are responsive to chemotherapy.

Summary:

In summary we need to provide the pet owner with information on what the mass is, (both tumour type and tumour grade) and where the mass is, (both locally and systemically). Only then can we provide meaningful information on the prognosis.

We must then discuss the treatment options that are available and how these treatment options may impact the prognosis. The owner can then make informed decisions on which treatment option they would like to pursue.

Please feel free to contact Melbourne Animal Specialist Hospital for assistance with investigative plans, prognosis, and treatment options to provide the best possible care to your patients.

Please also refer to our *Mass Mind Map* that outlines what diagnostic information can be collected and how it impacts the decision-making plan. Hopefully you will find this resource helpful in your future cancer cases.