The Pet Oncologist
Helping Vets With Pet Cancer Care

The Pet Oncologist
Dr. Catherine Chan BVSc (Hons I)
FANZCVS (Veterinary Oncology)
Diplomate ACVIM (Oncology)
Registered Specialist in Veterinary Oncology Q4941
Email: info@thepetoncologist.com
Website: www.thepetoncologist.com

SAMPLE ABDOMINAL ULTRASOUND REPORT

DATE: Wednesday 10th April 2024
PET: Jett XXX, 9-year-4-month-old MN Whippet, 16.7 kg
VET: Dr. XXX
PRACTICE: Vet Hospital Name

REASON:
Staging prior to surgery today to remove two new cutaneous masses, suspected haemangiosarcoma.

HISTORY:
Jett had a biopsy performed three months ago (10/01/24) on an approximately 7 x 10 cm purple mass present in the left lateral prepuce region. Histopathology revealed cutaneous haemangiosarcoma with a mitotic count of 6 with actinic solar induced changes. Wide margins surgery with 5 cm lateral margins were performed two months ago (01/02/24). Histopathology was not performed. Haematology and serum biochemistry performed at the time were unremarkable (results were not available for review).

Six days ago (04/04/24), Jett presented for further evaluation of ulcerated and inflamed cutaneous masses as follows:

- ~2-cm alopecic ulcerated cutaneous mass over the left craniolateral thorax. In-house cytology revealed spindle cells > round cell neoplasia / other.
- 1-cm diameter ulcerated mass over the right caudal popliteal region.

Jett is clinically well except for penis deviates to the left since he has had surgery, and he does not seem to be fully voiding the bladder, with normal urination followed by leaking urine while walking.

PHYSICAL EXAMINATION:
BAR/nervous. HR = 120. RR = 24. Temp = 39.1. Mm = pink. CRT = 1-2 seconds. Body weight = 16.7 kg.
Thoracic auscultation unremarkable.
Abdominal palpation unremarkable.
All peripheral lymph nodes palpably small and soft.
Rectal examination revealed soft brown faeces and enlarged anal glands, no masses.

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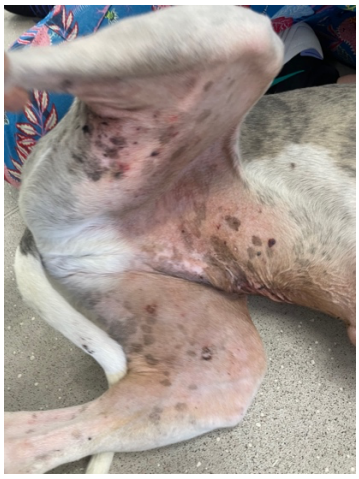
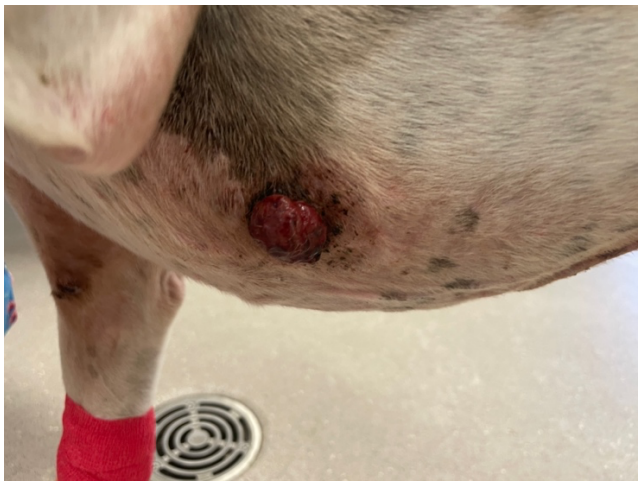
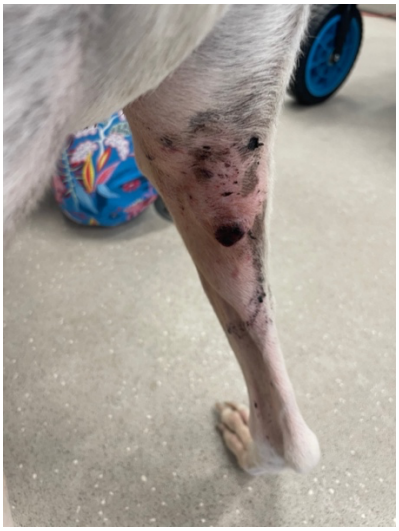
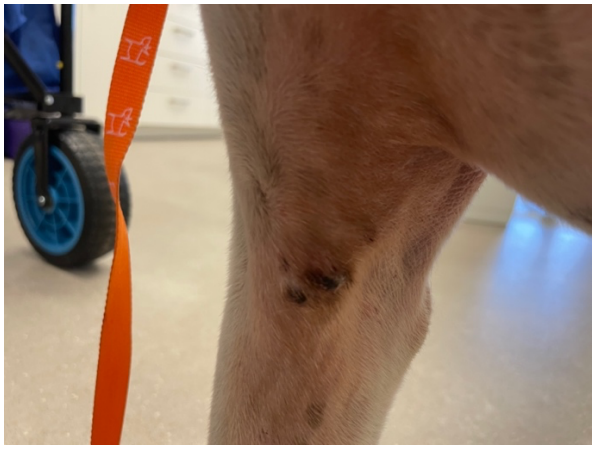
Photo 1: Lichenification and thickening ventral abdomen with multiple pin-point lesions along the ventral abdomen. 	***Photo 2:*** 19 mm ulcerated and erythematous left cranial thoracic wall mass. 
Photo 3: 15 mm erythematous and ulcerated mass over the right caudal popliteal region. 	***Photo 4:*** 14 mm right upper medial forelimb mass 

LABORATORY:

Chemistry ten panel unremarkable. PCV/TP = 55/70.

CURRENT MEDICATION:

1) Trazadone 100 mg PO q12h PRN, for anxiety

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ORGAN	NORMAL	ABNORMAL	FINDINGS
URINARY BLADDER	X		Normal. Medium size.
PROSTATE	X		8. mm width x 23.9 mm in length.
LEFT KIDNEY	X		Normal. Measured 64 mm in length x 35.4 mm in width. Slightly reduced corticomedullary demarcation. No pyelectasia.
RIGHT KIDNEY	X		Normal. Measured 66.7 mm in length x 33.7 mm in width. Slightly reduced corticomedullary demarcation. No pyelectasia.
LEFT ADRENAL	X		Normal. Cranial pole measured 5.6 mm in thickness. Caudal pole measured 5.3 mm in thickness.
RIGHT ADRENAL	X		Normal. Cranial pole measured 3.1 mm in thickness. Caudal pole measured 3.4 mm in thickness.
SPLEEN		X	Normal on convex probe, and mildly diffuse subtle pinpoint hypoechoic lesions throughout.
LIVER	X		Normal.
GALLBLADDER & BILIARY TRACT		X	Mild gall bladder sludge, slightly adhered caudal surface.
STOMACH	X		Normal. Measured 4.8-mm in wall thickness.
SMALL INTESTINES	X		Normal. Measured up to 4.9 mm in wall thickness.
COLON			Normal.
PANCREAS			Normal.
LYMPH NODES			Normal. LMILN = 2.7 mm in thickness. RMILN = 5.1 mm in thickness, slightly rounded.
PERITONEUM			Normal.
FREE FLUID			None.
TRANSDIAPHRAGMATIC			No pericardial or pleural effusion. No obvious surface pulmonary nodules. No heart base or right auricular mass.

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SUMMARY OF ULTRASOUND FINDINGS:

1) No obvious evidence of metastasis from cutaneous haemangiosarcoma.
2) Diffusely mild pinpoint splenic lesions, may represent normal variant, extramedullary haematopoesis, and very unlikely neoplasia.
3) Gall bladder sludge, likely of no clinical significance, particularly with normal serum ALP. Incidental finding.

RECOMMENDATIONS:

1) Left lateral preputial haemangiosarcoma mass kept in formalin. Recommend submit for histopathology with QML and to request histologic margins to determine if complete or incompletely excised.

2) In house cytology of the right upper medial forelimb mass (photo 4) recommended to rule out malignancies apart from haemangiosarcoma.

3) Unremarkable thoracic radiographs, three months ago. Repeat three-view thoracic radiographs recommended prior to surgery today.
   - If there is no evidence of pulmonary metastasis, proceed with wide margins surgery to remove the three cutaneous masses (photos 2-4) and submit for histopathology with QML.
     - If the results reveal cutaneous haemangiosarcoma with no aggressive histologic features, no further therapy is recommended apart from regular 'active surveillance' for local disease recurrence, new cutaneous masses and metastasis. Three-view thoracic radiographs and abdominal ultrasonogram recommended to check for distant metastasis, every three months for the first year, then every 4-6 months after that. Metastasis is present in one in three dogs at presentation and develops in around 42% to 77% of dogs within one year of diagnosis. Metastasis predominately occurs to the lungs and abdominal viscera, but occasionally may occur in unusual sites, such as the bone and brain. Therefore, routine regular monitoring is essential in management of dogs with cutaneous haemangiosarcoma.
   - If there is evidence of pulmonary metastasis, the prognosis is guarded with median survival times of about one year. Palliation with chemotherapy and supportive care medications can be considered, but with low expectations.

4) Low-fat diet can be considered for the gall bladder changes. Repeat liver panel (e.g. ALT, ALP, TBIL) and abdominal ultrasonogram is recommended in three months to reassess. Sooner any clinical concerns.

5) Prevention:

Jett has some evidence of actinic (solar-induced) changes. Therefore, UV damage to the skin has already occurred and will likely lead to the development of new skin lesions during the dog's lifetime. However, the following prevention methods are still recommended to reduce the risk of further cancer development and delay disease progression:

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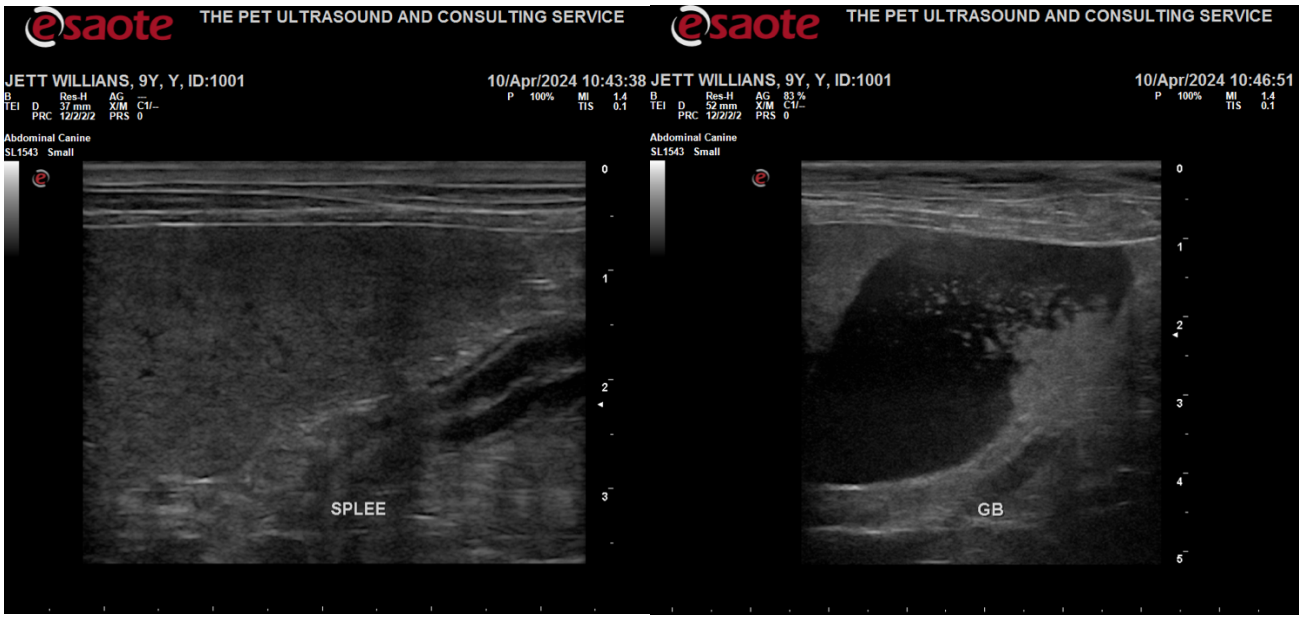
1) Avoid sun exposure (especially sunbathing), particularly during times when the sun's UV rays are at their strongest (10 am to 4 pm).
1) Apply sunscreen (e.g. SPF50+ by Neutrogena®) and put on a sun-suit in dogs that are out in the sun or cannot avoid sunbathing.
2) Long-term oral nicotinamide (Vitamin B3) is effective at significantly reducing the incidence of dermal squamous cell carcinoma, basal cell carcinoma and actinic keratosis in humans. No formal studies have been performed in dogs with dermal squamous cell carcinoma or haemangiosarcoma. However, it is considered safe long-term. The initial dose rate is 250 mg PO three times daily for dogs under 10 kg and 500 mg PO three times daily for dogs over 10 kg. This can be reduced to twice daily or once daily long-term. Nicotinamide can lead to lethargy and gastrointestinal side effects. Therefore, it is best administered with food. Anecdotally, dogs need to be on this medication for 2-3 months before any clinical response occurs. Provided the lesions are not rapidly progressing; this is a cost-effective and low-toxicity profile, chemo preventative option that could be considered. Nicotinamide can be administered alone or in combination with any of the medical options discussed in this report.
3) Advise owners to recognise early pre-cancerous lesions in their dog's skin and be prepared to undertake further surgery before the lesions progress into advanced stages.

KEY IMAGES:



IMAGES:

Provided on USB to **Vet Hospital Name**. Please contact **Vet Hospital Name** for images. Images not kept with The Pet Oncologist.

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COMMENTS:

Follow-up phone call or email advice (fees apply) can be provided upon request, to veterinarians only. I am more than happy to review the histopathology results.

If you or the owners require a written formal consultation report with more detailed information about the cancer biology, prognosis and treatment options, this can be provided upon request with reporting fees & turnaround times outlined as per our website.

A client handout on 'Skin Haemangiosarcoma in Dogs' was provided at no additional cost.

Most dogs will present with solitary lesions. Multiple lesions are present in one in three dogs. Many dogs will go on to develop more lesions later in life, particularly predisposed breeds with tumours in the ventral location, which are more likely to develop additional cutaneous haemangiosarcomas in the same regional skin over time. I suspect this will be the case for Jett. However, this does not necessarily mean it will be worse prognosis for Jett. Provided they are all completely excised and there is no evidence of metastasis, surgery can potentially be curative, and the reported median survival times for a dog in Jett's situation is around 3 to 4.3 years (Szivek et al. VCO 2011). In one study, one in three dogs developed metastasis at a median 11 months after surgery. Lastly, locoregional recurrence (i.e. any new tumour in the same regional area of skin) occurred in most dogs (77%) median time of seven months after surgery. Predominately in predisposed breeds, with multiple tumours in the ventral locations, suggesting a solar-induced aetiology.

When this occurs, it is most likely because of solar-induced damage to the skin. Provided there is no evidence of metastasis, surgery is the treatment of choice and can result in long survival times.

Although it is a nuisance to address the multiple remaining skin lesions, surgery is the best treatment for local disease control and in some cases, surgery alone is curative.

For dogs with too many lesions to consider surgery, I tend to reserve surgery for any large, nodular, and bothersome lesions (e.g. bleeding lesions). However, it is important to perform surgery early on, rather than waiting for them to become too large and invasive. Therefore, I think it is important to bring the dog back for regular assessments (i.e. every three months initially) by a veterinarian, then for owners to make this decision. Sometimes, owners leave it too late that further surgery will not provide adequate local control or is impossible. Lastly, any recurrence, particularly for subcutaneous haemangiosarcoma, should ideally be treated with wide aggressive margins surgery with histopathology to evaluate the surgical margins and histologic features of the tumour.

For the smaller lesions (i.e. pinpoint or plaque lesions), in order of my personal preference, these can be treated with either Strontium-90 plesiotherapy (only available at The Animal Referral Hospital in Sydney), laser therapy with Dermatology for Animals at Queensland Veterinary Specialists in Stafford, or medical options such as (non-steroidal anti-inflammatory drugs [NSAIDs] and imiquimod [Aldara topical cream]).

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Jett has predominately positive prognostic factors such as being a predisposed breed to developing cutaneous haemangiosarcoma, histologic-solar induced changes. Provided there is no evidence of metastasis and they can be removed by surgery and there is no evidence of metastasis, surgery can potentially be curative, and the reported median survival times for a dog in Jett's situation is around 3 to 4.3 years (Szivek et al. VCO 2011).

DISCLAIMER:

This report has been prepared for interpretation by the licensed and registered veterinarian responsible for the care of this patient at **Vet Hospital Name**. To maintain the veterinarian-patient-client relationship, pet owners should direct any questions or concerns to **Vet Hospital Name**. The Pet Oncologist is a veterinarian-only service and does not provide online advice to pet owners.