

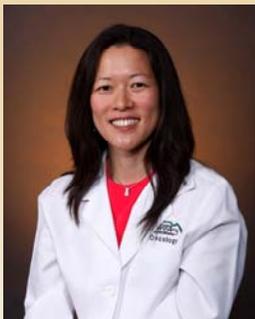
## We Never Know Until We Try: 2 Cancer Case Reports By Kim Hillers, DVM, MS, DACVIM (Oncology) Southwest Veterinary Oncology



Former French President Chirac (canine version) with his favorite baguette

As oncologists, one of the rewarding aspects of our profession is to be able to apply our understanding of cancer biology and see our patients clinically improve with treatment. In previous issues, various topics, such as radiation therapy and mast cell tumors, have been discussed. For this edition, cases that exemplify some of our treatment outcomes are described.

For both cases, the patients had severe disease. If treatment had not been pursued, euthanasia would have been imminent within a very short time. In situations in which it may seem like there is little hope, sometimes our patients can reveal their superstar abilities if the owners are willing to pursue treatment. We never know until we try, and sometimes we're rewarded by small miracles.



### Meet our Author

**Kim Hillers**

*DVM, MS, DACVIM*  
(Oncology)

Dr. Kim Hillers graduated from the University of Minnesota with a Bachelor of Science degree in biology and a Bachelor of Arts degree in studio arts in 1997. She postponed veterinary school for one year to live in Seoul, Korea. She returned to the University of Minnesota for veterinary school and received her DVM in 2002. She completed a one-year internship at a small animal private practice in Mesa, AZ and a three-year combined residency in oncology and masters program at the Animal Cancer Center of Colorado State University. Dr. Hillers became board-certified in medical oncology in 2006. Dr. Hillers joined our staff in April of 2008.

## AVS Quarterly Continuing Education Presentation

Tuesday, October 6, 2009

Stop the Itch!

Diagnosing and Treating the Allergic Dog

Dr. Anthea Schick, DVM, DACVD

**The schedule of the program will be:**

6:30-7:00 pm: Registration

7:00-8:00 pm: Dinner

8:00-9:00 pm Lecture

**Location:**

Arizona Broadway Theatre

7701 W. Paradise Lane, Peoria

SW corner of Paradise and 77th Ave.

The program is free and includes dinner and lecture notes. However, seating is extremely limited and reservations will be taken on a first come - first serve basis. To register for the event, please fax the title of the requested event, your name, hospital name, phone, and e-mail address to (623) 298-5363, or RSVP online at <http://swvets.com/rsvp.aspx> no later than 48 hours prior to event.



Chirac: Palladia Superstar

## Case Study 1: Chirac

**--8 year old male neutered Beagle mix**

**--Diagnosis: 4.10.09  
biopsy of scrotal mass:  
Mast cell tumor, grade 2,  
1-2 mm margins**

Chirac presented to the oncology service 4.20.09 for a consult regarding a mast cell tumor involving the left scrotal area. About 2 months prior, a mass was noted; it was about ~3-4 cm when it was removed. The owners were told that the mass was removed completely. The owners elected to seek more information about mast cell tumor disease.

On physical exam, no gross disease was noted along the left caudal scrotal area. No enlarged lymph nodes or other masses were felt. The rest of the physical exam was unremarkable, including rectal. Mast cell tumor biology, prognostic factors, staging diagnostics, treatment options, and potential prognosis were discussed.

Mast cell tumors over the scrotal area may be associated with a more guarded prognosis due to location, incomplete excision, and spread of

disease to the regional lymph nodes. Based on the narrow margins, potential regrowth was possible. Based on the location, potential metastasis was possible. The owners elected to monitor for any recurrence and new masses.

Nine days later, the owners called, reporting that Chirac was weak and had pale gums. A splenectomy was performed later that day. Histopathology of the spleen and liver were benign (extramedullary hematopoiesis). No signs of mast cell tumor or other neoplasms were noted.

**6.2.09** Chirac returned, as vomiting was noted over the weekend, and a mass in the groin was found. On physical exam, both the inguinal lymph nodes measured about 5 cm. Cytology of the lymph nodes was consistent with metastatic mast cell tumor disease. Prednisone, Pepcid and Benadryl were started after that visit due to the severity of the swelling.

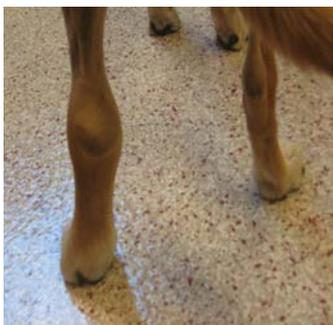
**6.8.09** Chemotherapy was started. Palliative radiation therapy was also pursued. Despite two doses of vinblastine, two doses of palliative radiation therapy, and one dose of



Chirac's preputial mastcell tumors



Improvement post-Palladia



Left hind leg edema due to swollen lymph nodes



Resolution of edema post-Palladia

CCNU chemotherapy, Chirac had progressive disease. The inguinal lymph nodes and left popliteal lymph node continued to enlarge, resulting in hind limb edema. Several cutaneous mast cell tumors developed along the prepuce, enlarging to ~3-4 cm and ulcerating. Furthermore, after the second dose of radiation therapy, signs consistent with cystitis were noted (increased frequency in urination, bloody urination, and straining); urine tests were unremarkable. The lymph nodes were still enlarged.

**7.7.09** Palladia was started, as the bladder signs seemed resolved. The inguinal lymph nodes were each ~6 x

5-6 cm. The left popliteal lymph node was ~2 cm. Moderate swelling around the hock/ankle was noted (was ~3 cm thick).

**Palladia** is a new drug approved for use in dogs with aggressive mast cell tumor disease (i.e. it is not indicated for every dog with a mast cell tumor). Palladia is NOT a benign drug, and its side effects can be more serious than typically seen with chemotherapy. Gastrointestinal (GI) perforation, pulmonary thromboembolism, and other blood changes can be seen with Palladia. Prednisone and Palladia are not to be given on the same day.

The owner was in-

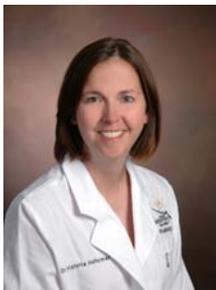
structed to discontinue the Palladia if GI side effects were noted and contact us immediately. Close monitoring, open communication, and dose adjustments, as needed, are vital to help avoid life-threatening side effects. The overall response rate associated with Palladia is ~35-40% with smaller, grade two mast cell tumors doing better than larger, grade 3 tumors.

**Chirac** returned the following week, and 90-95% of the lesions were gone. No hind limb edema was present, the lymph nodes were normal in size (both inguinal and popliteal), and only small scabs remained along the prepuce. After the third

week of Palladia, Chirac continues to do well. No lesions or side effects have been noted.

**It** is advised that the Palladia is continued for at least 6 months to help prevent a relapse. Blood work is advised weekly for the first 6 weeks and then rechecks are advised at regular intervals thereafter.

**Chirac** had an amazing response thus far. We are not sure how long this will help, but the owners were nearing euthanasia decisions, and we are thankful that Chirac responded so well. We hope that he continues to do great.



**Arizona Veterinary Imaging, P.L.L.C.**

*Is pleased to announce a new addition to our staff*

**Victoria L. Heffelman, DVM**

Dr. Victoria Heffelman received her Doctor of Veterinary Medicine degree from Colorado State University in 2004. After graduation she completed a small animal medicine and surgery internship at a private practice in Colorado followed by an additional year in private practice in Colorado as a veterinary associate. Dr. Heffelman then completed a diagnostic imaging residency at Michigan State University. Her special areas of interest include abdominal ultrasound, CT, and nuclear medicine.

**Arizona Veterinary Specialists**  
 86 West Juniper Ave Gilbert, AZ 85233  
 480-635-1110 ext. 7  
[www.azvs.com](http://www.azvs.com)

**Southwest Veterinary Surgical Service, P.C.**

*Is pleased to announce a new addition to our staff*

**Mark R. House, DVM**



Southwest Veterinary Surgical Service is pleased to announce that Dr. Mark House had joined our team of surgeons. Dr. House is a graduate of Ontario Veterinary College at the University of Guelph. He completed an internship at Ohio State University followed by a small animal surgical internship and surgical residency at Long Island Veterinary Specialists. His special interest include orthopedics, spinal surgery, fracture repairs, total hip replacement, and arthroscopy.



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-announcing -

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DVM, MS, DACVIM

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•Jana L. Jones, DVM  
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## Case Study 2: Wiggles

**- 6 year old female  
spayed English Mas-  
tiff**

**- Diagnosis: 8.29.08  
right dorsal neck:  
Subcutaneous/  
muscular hemangio-  
sarcoma**

Wiggles presented to the oncology service 9.4.08 for a consult regarding hemangiosarcoma involving the right dorsal neck. A couple months prior, the owners noticed a ~2 cm sized mass involving the back of the right neck. On 8.5.08 aspirate cytology of the neck mass was performed (results: "mesenchymal cell proliferation"). The mass continued to grow to about ~5-6 cm. On 8.29.08 it was surgically removed and a drain was placed. Histopathology was consistent with hemangiosarcoma infiltrating adjacent muscle. Although no bleeding occurred after the aspirate, after surgery, the mass continued to bleed.

On physical exam, the neck was bandaged. A moderate amount of bleeding was noted under the bandage. Mucous membranes were pink and heart/lung sounds were un-

remarkable. No other major abnormalities were noted. Blood work confirmed that Wiggles was anemic at ~26.7% (normal low=37%).

## Hemangiosarcoma

Hemangiosarcoma is a locally invasive disease with a high metastatic rate (if tissues deeper than the skin are involved). The prognosis depends on depth and extent of disease. Further diagnostics include blood work, 3 view chest x-rays, abdominal ultrasound, echocardiogram, and in Wiggles' case, a possible CT scan to determine depth of local neck disease. Treatment options include surgery when feasible (sometimes not ideal with muscular/deep tissue/non-visceral hemangiosarcoma), palliative radiation therapy, chemotherapy, and medical management. Unfortunately, the prognosis for hemangiosarcoma involving tissues deeper than the surface of the skin is guarded, as less than 10% of dogs live to a year due to rapid metastasis throughout the body.

## Palliative Radiation

Palliative radiation therapy was recommended

to help stop Wiggles' bleeding (may have a 75% chance of helping improve clinical signs). Most dogs tolerate this treatment well and side effects are minimal.

Generally, the radiation is given once weekly for 4 treatments. In one study looking at 20 dogs treated with palliative radiation therapy, most dogs had a median survival of ~3 months (meaning 50% of the dogs lived less than 3 months and 50% of the dogs lived longer than 3 months). Eventually, they were euthanized due to metastatic disease (i.e. splenic lesions, lung metastasis). In my experience with subcutaneous/muscular hemangiosarcoma, if local disease can be controlled, similar to primary splenic hemangiosarcoma, the prognosis may be 3-6 months' survival. The addition of chemotherapy may help extend survival.

The owners elected to pursue palliative radiation therapy. Wiggles received 4 doses of palliative radiation therapy, with the last treatment being 9.29.08. The bleeding subsided after the first dose. Wiggles did well throughout treatment (no side effects except regional alopecia).

Wiggles returned 10.7.08 to start chemotherapy. Chest radiographs were repeated; no signs of lung metastasis were seen. The mass was ~3.5 x 2.5 and flat (felt like a small sand dollar). Very few studies regarding carboplatin with hemangiosarcoma have been reported. Anecdotally, a complete resolution of a pulmonary nodule was seen at Colorado State University; thus, I include carboplatin as part of the treatment protocol for hemangiosarcoma.

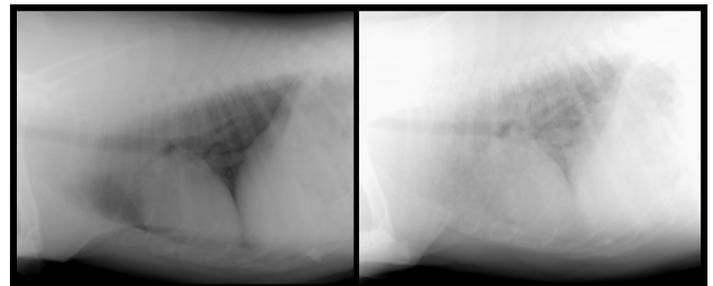
A total of six doses of carboplatin were given, with the last treatment being 1.27.09. Wiggles did well throughout treatment, and no regrowth was noted along the neck. No side effects occurred.

Wiggles presented 4.16.09 for a recheck. Increased respiratory sounds and panting more than normal had been noted. Slightly decreased energy level was also reported.

On physical exam, along the right neck, a discrete, firm, non-painful mass measuring 3.5 x 4 x 2 cm was felt. No pain was elicited on abdominal palpation. No abnormal heart sounds were heard. Unfortunately, diffuse, nodular



Wiggles' end of treatment celebration



Wiggles' chest x-rays at the start of chemotherapy then shortly before humane euthanasia.

lung lesions were seen on chest x-rays, most consistent with lung metastasis.

Humane euthanasia was performed 4.20.09, as Wiggles developed serosanguinous nasal discharge, anorexia, and shallow breathing.

Overall, if local disease can be controlled via surgery or palliative radiation therapy and chemotherapy is also

given, the prognosis for non-visceral, deep tissue hemangiosarcoma may be extended past a few months. Wiggles' survival was ~8 months with palliative radiation therapy and chemotherapy. Wiggles had a great quality of life throughout treatment, no major side effects occurred, and her family was grateful for those 8 months. ▪

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  - ◆ Portocaval Shunts

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- Immune-mediated diseases
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September 2009

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