

Saluki tumor registry June 2006

The pathologic study of 100 Saluki hearts revealed an alarming incidence of cancer, specifically hemangiosarcoma of the right atrial appendage of the heart. An additional finding was that over 50% of the Salukis had some form of cancer. In the health survey conducted by Saluki Health Research in 2004, cancer was ranked second in importance of health concerns by Saluki owners.

To assess the types of cancer that were prevalent in our Salukis, SHR started a neoplasia, or tumor, registry. The goal was to identify and classify neoplasms that occurred in Salukis and bank DNA for future examination. This would, hopefully, help explore the frequent types of cancer found in Salukis, and provide clues to potential causes and, ultimately, the early diagnosis, treatment and prevention.

In the last four years, I have received 57 tumor samples. These have been examined microscopically by the chief surgical pathologist at the Diagnostic Center for Population and Animal Health, College of Veterinary Medicine, Michigan State University. The growths in the registry represent tumors from all categories (epithelial, mesenchymal, round cell) and are commonly seen in older dogs. Older dogs of all breeds are more likely to have tumor development, both benign (not cancerous) and malignant.

Of submitted tumors, 16 were benign and were either from the skin, mammary gland or spleen. Though any time the spleen is involved hemangiosarcoma is possibility, for two fortunate individuals, the submitted specimen represented a reactive or hyperplastic process, and removal of the spleen was curative.

Eighteen growths involved the epithelium (or skin). This was not an unexpected finding since these neoplasms are the most readily apparent. Cutaneous neoplasms can

be categorized depending on the origin of the cell type and can be distinguished as benign or malignant depending on their morphological characteristics. Malignant neoplasms have different, more aggressive, behaviors and metastatic (spreading) potential. Some benign/malignant examples are:

1. Epithelial - adenoma or carcinoma/adenocarcinoma
2. Mesenchymal – fibroma/fibrosarcoma; hemangioma/hemangiosarcoma; lipoma/liposarcoma; neurofibroma/neurofibrosarcoma
3. Round (Discrete) Cell – lymphosarcoma; plasmacytoma; mast cell tumor; histiocytoma

Eleven of the epithelial growths were benign while seven were malignant and carried a poorer prognosis. Hemangiosarcoma, a mesenchymal neoplasm, was diagnosed in two of the skin samples, which has been traditionally recognized as a primary site.

Eight samples were from the mammary gland, with mammary adencarcinoma being diagnosed most frequently. This is not unexpected since the majority of the Salukis sampled were unaltered. Early age neutering has been shown to be protective in the development of mammary cancers since most are hormonally dependent. One sample was cystic (benign) while seven were malignant.

Twelve splenic samples were submitted and two were found to be benign. Hemangiosarcoma was the primary cancer in seven cases; three others were classified as malignant spindle cell (or undifferentiated sarcoma). There were also undifferentiated sarcomas in the two liver samples submitted and some other soft tissues. Further evaluation of these samples by immunohistochemical analysis might show whether these are of the same cell line origin as

hemangiosarcomas. Various carcinomas were found at a low incidence in the mouth, thyroid gland, lung, bone and central nervous system; and all carried a poor prognosis.

Hemangiosarcoma was diagnosed in the right atrial appendage in all seven of the submitted heart samples. Metastatic hemangiosarcoma was a secondary finding in submitted liver, spleen or lung samples showing how often it has spread to other organs at the time of initial diagnosis. The size of the mass does not necessarily influence the prognosis, since most dogs die from blood loss due to the rupture of the hemangiosarcoma.

This registry showed that the incidence of hemangiosarcoma in our Saluki population continues to be high, with histologically confirmed HSA in over a third of the samples submitted. Since the diagnosis can often be made by the location and gross appearance of the tumor, I would suspect that samples from many affected Salukis have not been submitted for inclusion in this study. This is unfortunate, since the samples are banked for future DNA analysis. The goal is to include these samples in studies exploring the genome for DNA markers for hemangiosarcoma, as well as other cancers, to potentially identify at risk individuals. What is clearly apparent is that we need to continue to support cancer studies, especially those related to hemangiosarcoma, to help ensure the future health and welfare of our ancient breed.

For information on how to submit samples for inclusion into the tumor registry, the protocol is available on the SHR web site:

salukihealthresearch.tripod.com
or contact me at
salukihealth@aol.com or 517-655-1354
–MaryDee Sist, DVM, President
Saluki Heath Research