



# Abbey Veterinary Services

DIAGNOSTIC HISTOPATHOLOGY AND CYTOLOGY

Clinicopathological Newsletter

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## CASE OF INTEREST

### A Case of Chronic Granulomatous Sebaceous Adenitis in a Dog

By Richard Fox, Veterinary Pathologist

A five-year-old female, entire, crossbred Akita presented with a 'long' history of skin disease. Clinical findings included diffuse, mainly trunkal, marked scaling, multiple comedones and apparent pyoderma. There was also concurrent diffuse alopecia but examination revealed the presence of large primary hair shafts and with keratin casts on trichogram. Initial treatment included oral cephalexin which resulted in elimination of the pyoderma but the remaining clinical signs still remained. Differential diagnoses included hormonal/endocrinopathic dermatoses and neoplasia.

Skin biopsy was performed by taking 3 elliptical biopsies from the dorsum of the head, neck and back regions. Histopathological examination revealed that all three biopsy specimens were similar. There was mild epidermal hyperplasia with moderate to severe lamellar to basket weave orthokeratotic hyperkeratosis with follicular hyperkeratosis. There were also infrequent perivascular mononuclear cells in the superficial dermis. There were hair follicles in active phases of the growth cycle but some which were arrested and atrophic.

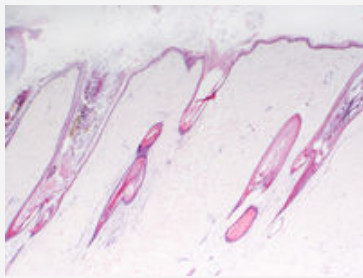


Figure 1. Histological section of skin displaying moderate surface orthokeratotic hyperkeratosis, follicular dilatation and hyperkeratosis and loss of sebaceous glands (x5 obj.). HE Stain.

There was an absence of sebaceous glands, and a moderate peri-adnexal infiltrate of mixed mononuclear inflammatory cells (mostly macrophages) and neutrophils. The inflammation around follicles was dominated by macrophages but also included multinucleated giant cells.

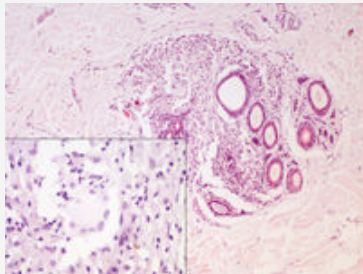


Figure 2. Oblique section through a group of adnexae with marked peri-adnexal inflammation and loss of sebaceous glands. The high power inset identifies macrophages and neutrophils and a multinucleate giant cell (x10 obj.) HE stain.

Granulomatous sebaceous adenitis is an uncommon idiopathic dermatitis of dogs. The cause and pathogenesis of the disorder are unknown but speculations include the following:

- (1) sebaceous gland destruction is a developmental and inherited defect;
- (2) sebaceous gland destruction is due to cell mediated immunologic reaction directed against a component of the gland;
- (3) initial defect is a keratinisation abnormality with the subsequent obstruction of the sebaceous ducts;
- (4) keratinisation defects are the result of an abnormality in lipid metabolism.

There is no apparent sex predilection and the disorder tends to appear in young adult to middle-aged dogs. Breed predilections include Standard Poodles, Akitas, Vizslas, Samoyed and Belgian Shepherd Dogs. Usually lesions are bilaterally symmetrical predominantly arising on the face, head, pinnae and trunk.

In dogs, sebaceous adenitis appears clinically as two different chronically progressive forms and blood analysis generally reveals no significant abnormalities. The Akita, however, may show signs of systemic illness, such as fever, malaise, and weight loss. In short-coated breeds, such as the Vizsla, lesions include symmetric multifocal areas of alopecia and adherent white scales beginning on the head and ears and disseminating to the trunk. In longer-coated dogs, such as Akitas and Standard Poodles, generalised alopecia with erythema and yellow-brown keratosebaceous secretions occur. Lesions are usually not pruritic or painful, unless complicated by secondary folliculitis. It has been described in other species such as the rabbit, cat and horse in recent years.

Histopathologic examination typically demonstrates a periadnexal pattern of granulomatous

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## JOURNAL Articles(with e-links)

1. Rogers CL, O'Toole TE, Keating JH, Penninck DG, Webster CR. Portal vein thrombosis in cats: 6 cases (2001-2006). *Vet Intern Med.* 2008 Mar-Apr;22(2):282-7. [Link](#)

Background: Portal vein thrombosis (PVT) in cats is sparsely reported. Purpose of Study: To evaluate the clinical signs and diseases associated with PVT in cats. Animals: 6 client-owned cats. Methods: Medical records for cats with a portal vein thrombus diagnosed on abdominal ultrasound or at necropsy were reviewed. Signalment, historical data, underlying disorders, clinical findings, clinicopathologic and histopathologic data, diagnostic imaging findings, treatment, and outcome were recorded. Results: All 6 cats identified with PVT also had hepatic disease. Evidence of a congenital portosystemic shunt was present in 3/6 cats. Two cats had primary or metastatic hepatic neoplasia. One cat had acute cholangitis, acute pancreatitis, and locally extensive acute centrilobular hepatic necrosis. Two cats were suspected to have acute thrombi and 4 cats had chronic thrombi. Conclusion and Clinical Significance: PVT might be an important concurrent finding in cats with hepatic disease.

2. Zitz JC, Birchard SJ, Couto GC, Samii VF, Weisbrode SE, Young GS. Results of excision of thymoma in cats and dogs: 20 cases (1984-2005). *J Am Vet Med Assoc.* 2008 Apr 15;232(8):1186-92. [Link](#)

Medical records were reviewed. The following factors were analyzed for their effect on prognosis: age of dog or cat, invasiveness of the tumor, percentage of lymphocytes in the mass (percentage lymphocyte composition) on histologic evaluation, and mitotic index of the mass. All patients were treated with excision of the tumor alone. Median overall survival time for the cats was 1,825 days, with a 1-year survival rate of 89% and a 3-year survival rate of 74%. Median overall survival time for the dogs was 790 days, with a 1-year survival rate of 64% and a 3-year survival rate of 42%. Recurrence of thymoma was observed in 2 cats and 1 dog, and a second surgery was performed in each, with subsequent survival times of 5, 3, and 4 years following the first surgery. Percentage lymphocyte composition of the mass was the only factor that was significantly correlated with survival time; animals with a high percentage of lymphocytes lived longer. Results of this study indicated that most cats and dogs with thymomas did well after excision. Even cats and dogs with invasive masses that survived the surgery and the few cats and dogs with recurrent thymomas or paraneoplastic syndromes had a good long-term outcome. Excision should be considered an effective treatment option for dogs and cats with thymomas.

3. N. D. de Bruijn, J. Kirpensteijn, I. J. S. Neyens, J. M. A. Van den Brand and T. S. G. A. M. van den Ingh. A Clinicopathological Study of 52 Feline Epulides. *Vet Pathol* 44:161-169 (2007) [Link](#)

A retrospective study was performed to characterize 52 new cases of feline epulides between 1995 and 2001, with clinical and pathological results classified according to Head's histopathologic criteria for canine epulides. The incidence of the fibromatous, acanthomatous, ossifying, and giant cell epulis were respectively 57.7% (30/52), 7.7% (4/52), 5.8% (3/52), and 28.8% (15/52). Giant cell epulides presented significant differences in clinical behavior compared with the fibromatous type, including rapid growth ( $P < .0001$ ), presence of ulcerative changes ( $P < .01$ ), and rapid recurrence after surgery ( $P < .01$ ) from which euthanasia was judged necessary in 4 cases. Fifteen giant cell epulides were additionally examined in

inflammation, primarily directed at the sebaceous glands. As the disease progresses, the sebaceous glands are destroyed, whereas the hair follicles remain normal. In advanced cases, however, perifollicular fibrosis of the isthmus region and follicular atrophy can occur.

Prognosis for recovery of sebaceous adenitis is fair to guarded, depending on the level of destruction and regeneration of the sebaceous glands. Long-term treatment with immunosuppressive agents have had mixed results. Secondary pyoderma as was evident in this case can be present and requires systemic and/or topical antibiotics. Supplemental options include topical propylene glycol sprays, oral essential fatty acids, vitamin A, sunflower oil, topical antiseborrheic shampoos, and moisturising emollient rinses. These initial treatments should be tried for at least 2 months before considering them ineffective.

References:

1. Reichler IM, Hauser B, Schiller I, et al. Sebaceous adenitis in the Akita: clinical observations, histopathology and heredity. *Vet Dermatol.* 2001;12:243-53.
2. Dunstan RW, Hargis AM. The diagnosis of sebaceous adenitis in standard poodle dogs. In: Kirk RW, ed. *Current Veterinary Therapy XII.* Philadelphia: WB Saunders. 1995:619-22.
3. *Diseases of the Epidermis: Sebaceous Adenitis in Skin Diseases of the Dog and Cat*, 2nd edition (2005), Gross, Ihrke, Walder and Affolter pp. 186-188.

order to characterize the lesion both histochemically and immunohistochemically and to investigate the origin of the multinucleated giant cells (MGCs). Van Gieson staining showed osteoid and woven bone formation in 11 cases. Both the MGCs and a fraction of the mononuclear cells were positive for vimentin, tartrate-resistant acid phosphatase (TRAP), a commonly accepted marker for osteoclasts, and the polyclonal antibody receptor activator of nuclear factor  $\{\kappa\}$  (RANK), a cytokine leading to the differentiation of osteoclast progenitors into mature osteoclasts in presence of its ligand. MGCs were negative for smooth muscle actin, MIB-1, and factor VIII. The giant cell epulis may be a variant of the fibromatous and ossifying epulis in which extensive ulceration and inflammation results in increased osteoclastic activity. The osteoclast-like giant cells are most likely formed from a monocyte/macrophage-like osteoclast precursor that differentiates into osteoclasts under the influence of mononuclear osteoblast-like stromal cells.

**LATEST NEWS**

**ELISA blood test developed for Equine Strangles**

For the last four years, scientists at the Animal Health Trust, in Newmarket, have been analysing the genetic structure of *Streptococcus equi equi* (S. equi), the bacterium which causes equine strangles. Their aim was to identify the antigens that are produced specifically by this bacterium. With funding from The Horse Trust, two antigens that are unique to S. equi, and which are targeted by the equine immune system following exposure to S. equi, have been identified.

AHT bacteriologists have developed a new ELISA test which identifies antibodies to these S. equi specific antigens. Horses that have been exposed to S. equi will develop antibody titres to these antigens and have a positive result on the ELISA test.

Additional info: [External Link](#)

**SIDE STORY**

**Immune-Mediated Retinopathy**

Sinisa Grozdanic, assistant professor of veterinary medicine at Iowa State University, has identified and named an eye disease not previously known. The disease, Immune-Mediated Retinopathy, or IMR, causes loss of function in retinal cells and, in some cases, blindness in canines.

Grozdanic's findings are published in the March edition of *Veterinary Clinics of North America: Small Animal Practice.*

IMR is very similar to a previously known malady called Sudden Acquired Retinal Degeneration Syndrome or SARDS.

Read More : [External Link](#)

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**BIOPSY TIPS**

**Intestinal biopsy (Enteric disease)**

- If exploratory laparotomy is performed, due to suspected intestinal disease, biopsy should be performed even if the external appearance of the intestine is within normal limits (it does not exclude that there is mucosal pathology).
- Multiple biopsies are preferable to a single biopsy as the changes can be multifocal, segmental or regional.
- Mesenteric lymph nodes are often enlarged in cases of enteritis/diarrhoea and although biopsy is useful in cases of suspected neoplasia they are often equivocal or non-contributable (unless they appear visually abnormal).
- Full thickness biopsies are preferred to grab biopsies and should include all layers of the wall. When endoscopic biopsy is performed multiple samples from each region should be taken to get a suitable overall assessment of the mucosa.