

(CBAV-1) was produced by a patented process and tested in pigs with salmonella infection about growth performance and salmonella infection. As the results, CBAV-1 may be one of the potential candidates against salmonellosis in pigs (The experiment was supported by Biomedical Science Research Institute, Hoseo university).

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The comparative effect of β - and γ -irradiation in the skin of minipig model

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Introduction: Radiation-induced skin injury is a common side-effect of an irradiated exposure for therapeutic purpose and the most common problem in radiation accidents. β -ray, one of the radiation has weak transmission power. However, this ray can have sufficient energy to penetrate the skin and thus be an external radiation hazard. The biological effects of β -irradiation in the normal tissue and tumors are of interest for clinical radiotherapy, otherwise its biological mechanism has not been studied. In this study, we evaluated the detrimental effects of β -irradiation and γ -irradiation on the skin of minipig.

Materials and Methods: The skin of minipigs was exposed to 50 Gy of β -irradiation using ¹⁶⁶Holmium patch or γ -irradiation using ⁶⁰CO gamma-ray. We evaluated severity of skin reaction, histological analysis, and COX-2 expression in the irradiated skin of minipig.

Results: β -irradiation induced more severe skin injury (1-3 weeks) than γ -irradiation. β -irradiated group was repaired skin injury 8 weeks after irradiation, but γ -irradiated group was not repaired. The histopathological changes were corresponded with scores of gross appearance. After 7 days irradiation, apoptotic cells in the basal layer were detected more frequently in β -irradiated skin, compared with those in γ -irradiated skin. The basal cell density and skin depth gradually decreased 4 weeks after γ - and β -irradiation. In 6-9 weeks, β -irradiated group sharply increased to the control level. Otherwise, it did not show in γ -irradiated group. In γ -irradiated skin,

cyclooxygenase-2 (COX-2) expressions were stained in the epidermis, vessel endothelial cells and fibroblasts. On the other hand, β -irradiated skin, COX-2 expression is mostly limited to the epidermis.

Conclusions: Therefore, this study shows the differential effect of γ - and β -irradiation on skin and proposes a beneficial experimental model for studying irradiation-induced skin damage.

영리

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Acanthomatous epulis in a hedgehog

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Introduction: Epulis is a nonspecific, clinical descriptive term referring to a benign local exophytic growth of the oral mucosa [2]. Epulides are common in dogs but occur infrequently in cats [1]. Epulides are microscopically characterized by a dense, well vascularized stroma populated by stellate cells with abundant fibrillar collagen resembling the periodontal ligament and can be distinguished several forms, such as fibromatous, acanthomatous, ossifying, and giant cell epulis [2]. Acanthomatous epulis is characterized by invasive infiltration (periodontal apparatus, including alveolar bone), rapid growth and repeated recurrences despite a lack of cellular atypia and few mitotic figures [3, 4]. There is no available information for epulis in the hedgehog until today. The purpose of this report is to describe the morphologic features of acanthomatous epulis in a hedgehog.

Materials and Methods: A 4-year-old male hedgehog with a gingival mass was submitted to a local animal hospital. Surgically excised mass was yellowish white in color. The excised mass was presented to the Pathology Department of the Veterinary Medicine, Jeju National University. The submitted mass was fixed in 10% buffered formalin, trimmed, embedded in paraffin wax, sectioned at 3 μ m, and stained with hematoxylin & eosin staining.

Results: Histologically, polypoid proliferated neoplastic mass was composed of proliferated stratified squamous epithelium and fibrous tissues in lamina propria. Gingival epithelium showed severe diffuse hyperplasia and parakeratosis with focal vacuolar degeneration and severe rete ridge down growth. Anastomosing stratified squamous epithelia (islands like) were widely occupied in superficial and deep lamina propria. Gingival stroma was mild hyperplastic with

interwoven bundles of fibroblastic tissues. Many blood vessels in lamina propria showed marked congestion.

Conclusions: Based on the histopathologic features, this case was diagnosed as oral acanthomatous epulis in a hedgehog. To our knowledge, this is the first report of acanthomatous epulis in a hedgehog in Korea.

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Benign peripheral nerve sheath tumor in the bladder of dog

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Introduction: The benign peripheral nerve sheath tumors (PNSTs) arise from Schwann cells, perineurial fibroblast, or both [1]. The benign PNST usually appears in middle-age or older dog [3]. There was no breed predilection in the occurrence of canine benign PNST [3]. Canine benign PNSTs are generally located in trunk, distal leg or extremities, while feline tumors are mostly observed on the head and neck [2]. Histologically, the benign PNSTs are composed of wavy spindle cells arranged in bundle, palisades, and whorls [2]. The benign PNSTs have neither necrotic foci nor aggressive growth, and rare mitotic figures [1]. The classic Antoni A configuration with Verocay bodies has been considered the hallmark of benign PNSTs in humans, but it is rare in tumors of domestic animals [3]. In this study, we describe the histopathologic characteristics of benign PNST in the bladder of dog.

Materials and Methods: A 9-year-old female mongrel dog was submitted to a local animal hospital with a mass in urinary bladder. The excised mass was presented to the Pathology Department of the Veterinary Medicine, Jeju National University. The submitted mass was fixed in 10% buffered formalin, trimmed, embedded in paraffin wax, sectioned at 3 μ m, and stained with hematoxylin & eosin staining. For differential diagnosis, immunohistochemical staining was performed with the antibody for the desmin, von

Willebrand factor(vWF), α -smooth muscle actin (SMA), neuron specific enolase (NSE), and S-100 protein. In addition, Masson's trichrome staining also performed

Results: Histopathologically, covered transitional epithelium of mass showed multifocal ulceration, beneath inflammation and hemorrhage. Neoplastic mass was occupied in the lamina propria of bladder, and relatively well circumscribed with loose connective tissues, but this mass was un-encapsulated. The mass was composed of wavy spindle cells and polygonal cells. These cells were arranged interlacing bundles, or concentric whorl. Large amount of collagen or mucinous materials also presented adjacent spindle cells. Tumor cells had uniform central nuclei and abundant eosinophilic cytoplasm. Numerous new formed capillaries were occupied throughout the mass. Cellular pleomorphism and mitosis were rarely presented. Immunohistochemically, the neoplastic cells showed positive reactions for S-100 protein and NSE, but negative for desmin, vWF, and α -SMA. In addition, Masson's trichrome staining showed positive reaction of the neoplastic cells.

Conclusions: Based on histopathologic and immunohistochemical features, this case was diagnosed as benign peripheral nerve sheath tumor in the bladder of dog. In our best knowledge, this is the first report for peripheral nerve sheath tumor in the bladder of dog in Korea.

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Renal angioleiomyoma in a Maltese dog

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Introduction: In domestic animals, leiomyoma in urinary system is mostly derived from the wall of the urinary bladder [2]. Angioleiomyoma, otherwise known as vascular leiomyoma, is a rare variant of leiomyoma originating from vascular smooth muscle cells and containing thick-walled vessels in neoplastic foci [4]. Angioleiomyoma is benign tumor that usually occurs in skin as subcutaneous nodules, whereas angioleiomyoma developing in internal organs is very rare [1]. Histologically, angioleiomyoma is characterized by bland, spindle-shaped smooth-muscle cells, numerous thick-walled arteriole-like vessels, and swirling smooth-muscle cells around the vessels [3]. Not