Potilas
Xxxxx Xxxxx
Topi Koira Suomenlapinkoira
Xxxxxxxxxx xx
Uros
95310 Liedakkala
Tutkimus:
Obduktio
Valmis pvm:
8.5.2013
Tulopvm:
1.2.2013
Tiedoksi:
ell
External examination
Carcase: 12.5kg. The animal was in good care condition and good body condition.
State of preservation: good.
Skin: No abnormality was detected.
Subcutis: No abnormality was detected.
Internal examination
Nasal cavity: A moderate amount of thick, reddish mucus was present in both nares and in the nasal cavity. The
septum was almost completely destroyed, leaving a thin remnant of distorted cartilage, disposed laterally.
Cranial cavity: No abnormality was detected.
Oral cavity: No abnormality was detected.
Thoracic cavity: No abnormality was detected.
Abdominal cavity: No abnormality was detected.
Pelvic cavity: No abnormality was detected.
Muscular system: No abnormality was detected.
Skeletal system: No abnormality was detected.
Nervous system
Brain: No abnormality was detected.
PNS: No abnormality was detected.
Cardiovascular system
Pericardium: No abnormality was detected.
Heart: No abnormality was detected.
Respiratory system:
Larynx: No abnormality was detected.
Trachea: There was a moderate amount of white foam in the tracheal lumen (moderate acute alveolar oedema).
Bronchi: There was a moderate amount of white foam in the bronchial lumen (moderate acute alveolar oedema).
Lungs: Both lungs exhibited diffuse mild to moderate congestion and oedema.
Gastrointestinal tract
Pharynx: No abnormality was detected.
Oesophagus: No abnormality was detected.

Stomach: The stomach was partially filled with ingesta. No abnormality was detected.
Small intestine: The small intestine over its entire length was moderately filled with brownish creamy digesta. No
abnormality was detected.
Large intestine: The colon was filled with soft brown digesta. No abnormality was detected.
Rectum: There was a moderate amount of formed faeces in the rectum. No abnormality was detected.
Liver: No abnormality was detected.
Pancreas: No abnormality was detected.
Urogenital system
Kidneys: No abnormality was detected.
Ureter: No abnormality was detected.
Urinary bladder: The bladder was empty. No abnormality was detected.
Urethra: No abnormality was detected.

Ovaries: No abnormality was detected.
Testes: No abnormality was detected.
Lymphatic system
Spleen: No abnormality was detected.
Lymph nodes: The submandibular and tracheal lymph nodes were diffusely moderately enlarged.
Endocrine system
Pituitary gland: No abnormality was detected.
Thyroid glands: No abnormality was detected.
Parathyroid glands: No abnormality was detected.
Adrenal glands: No abnormality was detected.
HISTOPATHOLOGY
All organs and tissues exhibited moderate autolytic changes.
Nervous system
Brain (cerebrum, hippocampus, brain stem, cerebellum): There is diffuse, moderate meningeal hyperaemia, and
small multifocal haemorrhage in the brain parenchyma.
Cardiovascular system
Heart (right, left ventricle, septum): No histological abnormality is recognised.
Respiratory system
Nasal cavity: The normal structure of the nasal cavity and cartilage is completely effaced by large numbers of neutrophils, some degenerate, lymphocytes, macrophages and plasma cells, accompanied by multifocal areas of
fibrosis and fibrinoid necrosis of blood vessels. The inflammatory cells infiltrate between the mucosal glands and
within the epithelial cells lining the glands, and causes complete necrosis of the latter. Throughout the section,
remnants of pre existing bone and cartilage exhibit empty lacunae (necrosis) and scalloped appearance of their
margins (osteolysis).The olfactory and respiratory epithelium are largely intact. Throughout the submucosa, there

are vast areas of necrosis, characterized by cellular debris and fibrin. Hyperaemia and oedema are diffuse and
marked, as well as multifocal foci of acute haemorrhage. PAS, Gimsa Zheel Neelsen and Gram stains were all
non contributory.
Lungs: There is diffuse marked hyperaemia and diffuse marked alveolar oedema, and a vast area of atelectasis.
No other histological abnormality is recognised.
Lymphatic system
Spleen: There is diffuse marked depletion of the lymphatic follicles, with necrosis of the germinal centers, characterized by lympholysis, cellular debris and fibrin.
Lymph nodes: Both the tracheal and the submandibular lymph nodes exhibit diffuse moderate oedema, and mild
to moderate diffuse infiltration of macrophages, lymphocytes and plasma cells, as well as few neutrophils. The
subcapsular sinuses are moderately dilated and filled with similar cell population. Multifocally, some lymphocytes
exhibit nuclear karyorrhexis (lympholysis). The medullary cords contain moderate numbers of mononuclear cells
and few neutrophils.
Gastrointestinal tract
Stomach: No histological abnormality is recognised.
Small intestine: No histological abnormality is recognised.
Liver: In some of the portal areas there are fibrin thrombi within the portal veins, admixed with moderate numbers
of degenerate neutrophils. In addition, there are marked autolytic changes represented by dilation of sinusoids
and loss of cellular details.
Pancreas: No histological abnormality is recognised.
Urogenital system

Kidneys: Apart from diffuse moderate hyperaemia, no histological abnormality is recognised.
BACTERIOLOGY
All the internal organs and nasal tissue were subjected to a bacteriological examination with the following results:
No bacteria was isolated.
COMMENT
Necropsy was performed on a few months old Siberian husky male dog that was euthanased after a long period
of rhinitis. The main gross finding was a severe diffuse atrophic rhinitis. Histological examination confirmed a chronic severe necrosuppurative rhinitis, associated with destruction of the nasal cartilage and turbinates. Infectious agents such as protozoa, funghi and mycobacterium can be ruled out as all the special stains were
negative. A neoplastic process was also excluded.
The predominance of degenerate neutrophils in the tissue is most likely indicative of a bacterial infection. Although the bacterial examination and Gram stain failed to identify a bacterial agent, this may be explained by
the antibiotic therapy which was given. It cannot be excluded that the initial cause was attributed to a viral infection, (parainfluenza, adenovirus), further enhanced by a secondary bacterial infection, resulting in a self-perpetuating inflammation. The depletion of the lymphatic follicles in the spleen is to be expected in a prolonged inflammatory process, resulting in exhaustion of the immune system.

Tulostettu 11.6.2013 13:04 (Syrjä Pernilla)