

ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2007 - Avian T1/T2/T3/T4

MAREK's DISEASE in CHICKEN

Histological lesions: Practical

■ Various tissues from different MD affected chickens

R T1: Nerves

- Different samples of nerves from the same bird.
- Association of type A and Type B lesions depending on the nerve.

- Diffuse, severe, generalized ± monomorphic neoplastic infiltrate with important splenomegally.
- Ischemic necrosis of neoplastic cells in the centre of the tumour with cell retraction and pyknotic nuclei.

- Liver: Multifocal to coalescent severe neoplastic infiltrate by pleomorphic lymphoid cells. Numerous mitotic figures and pyknotic cells.
- Proventriculus: Massive, diffuse, neoplastic infiltrate of the lamina propria of the mucosa without epithelial ulceration. Moderate, multifocal infiltrate in the glandular lobules of the submucosa, mainly located around the central cavity of the glands.

▼ T4: Skin

 Severe, diffuse, neoplastic infiltration of the dermis and subcutis in contact with the epidermis focally ulcerated and extending to the skin muscles. Pseudo-follicles structures can be identified.

AVIAN TUMOURS

- Classification
 - Viral induced tumours
 - K Herpesvirus: Marek's Disease

Retrovirus

- ◆ ALV/RSV group
 - ∠ Lymphoid leukosis: Lymphomatosis
 - ∠ Erythrobiastosis and Myeloblastosis/Myelocytomatosis
 - ∠ Sarcomas and other connective tissues tumours
 - V Nephroblastomas, Haemangiomas, Haemangiosarcomas, hepatocarcinomas, pancreatic adenocarcinomas, ovarian tumours
 - ∠ Osteopetrosis
- REV group
 - ∠ Spontaneous lymphoid neoplasms in turkeys ?

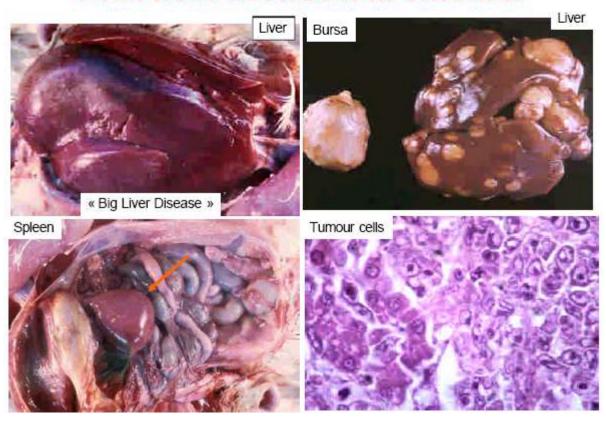
Tumours of unknown aetiology

■ Benign and malignant neoplasms of various tissues

LYMPHOID LEUKOSIS in CHICKEN (LYMPHOMATOSIS)

- Retrovirus from ALV/RSV (Avian Leukemia, Rous Sarcoma Viruses) group
- Genetic selection eradicated the retroviruses from commercial strains of poultry
- Lymphomatosis is not an economical problem today in poultry industry
- · Rare, sporadic cases in non selected ornemental strains of chicken

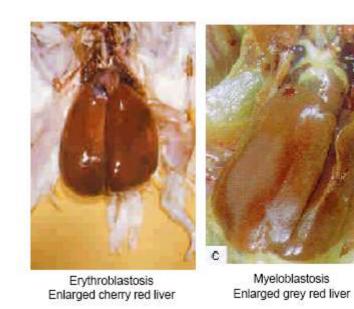
LYMPHOID LEUKOSIS in CHICKEN



ERYTHROBLASTOSIS and MYELOBLASTOSIS

Liver: Severe diffuse tumoral infiltration with important Hepatomegaly (+ Leukemia)

Marek's Disease



Males 3 Disease

Lymphomatosis



Diffuse forms of hematopoietic neoplasms affecting the liver grossly indistinguishable

MYELOCYTOMATOSIS IN CHICKEN

- Frequency dramatically increased in the early 90ties in the broiler breeders
- ALV subgroup J (typical chronic non transforming retrovirus devoids of oncogen)
- New ALV subgroup (recombinant from endogen and exogen viral genomes)
- · Specific tropism for heterophils myeloid cells inducing myelocytomatosis
- Tumours located in bones (sternum, ribs, skull, pelvis...) muscles, various organs (liver, spleen, kidney...)
- Rarely, ALV-J may also induce spontaneously other types of tumours as: Hemangiomas, Nephroblastomas, Sarcomas, Erythroblastosis....
- ALV-J almost eliminated today by genetic selection

MYELOCYTOMATOSIS IN CHICKEN

