

AHD – 411 (RAWE)

MID-TERM ASSIGNMENT

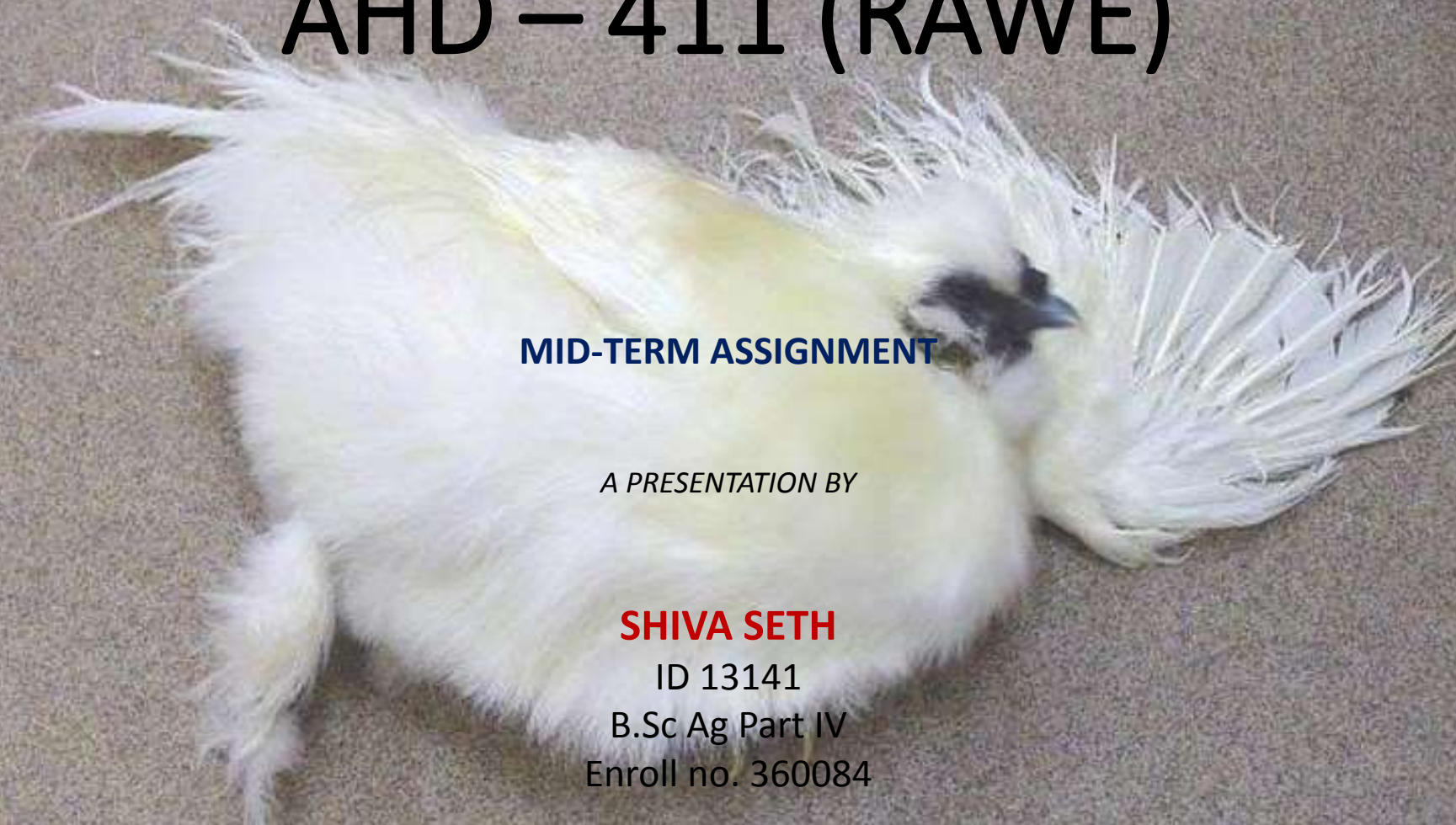
A PRESENTATION BY

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Marek's Disease of Poultry



Introduction

- Marek's Disease – A lymphoproliferative disease of chickens characterised by mononuclear infiltration of PNS, other tissues & visceral organs.
- First described by Jozsef Marek of Hungary in 1907.
- Due to neuronal involvement, synonyms used are – Polyneuritis, Fowl Paralysis, Range Paralysis & Neurolymphomatosis.

Aetiology

- MD – caused by Herpes Virus – enveloped, dsDNA virus.
- MDV – classified into 3 serotypes –
- Serotype 1 – includes oncogenic strains of MDV.
- Serotype 2 – includes naturally non pathogenic strains.
- Serotype 3 – antigenically related to herpes virus of turkey (HVT) . Used for production of vaccine k/a HVT 126.

- Serotype 1 – subdivided into 3 pathotypes –
- Mildly Virulent (mMDV)
- Virulent (vMDV)
- Very Virulent (vvMDV)
- Virus infectivity is strictly cell associated except in feather follicles epithelium where cell free virus are produced.

Spread

- Virus is present in desquamated feather follicle epithelial cells, oral, nasal, tracheal secretions.
- Feather follicles – main source of infectivity of dander.
- Air borne route – most important route.
- Virus is not transmitted through egg.
- Infected birds continue to contaminate the environment by shedding virus.

Epidemiology

- Genetic constitution – greatly influences pathology & incidence of disease.
- Genetic resistance is of 2 types –
- Associated with major histocompatibility complex allele. (B21)
- Susceptibility of T cells to transformation.
- Females are more susceptible than males.
- Stress – main environmental factor.

Pathogenesis

MD Virus enters into body in lymphoid organs



Proliferate & cause viremia



Reaches site of predilection



Virus after proliferation get deposited in feather

Follicle



Here dander like material is produced which acts as source of infection

Asymmetric Paralysis



Torticollis



Ulcers in feather follicles



Swelling Of Wattle



Paralysis of wings



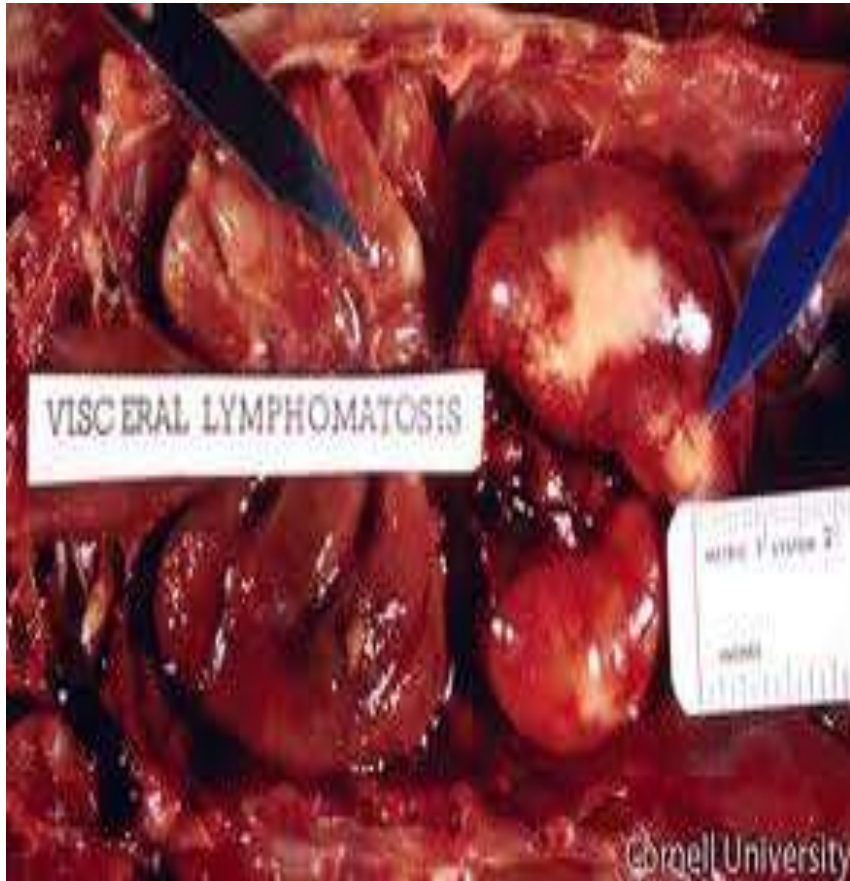
Spastic Paralysis



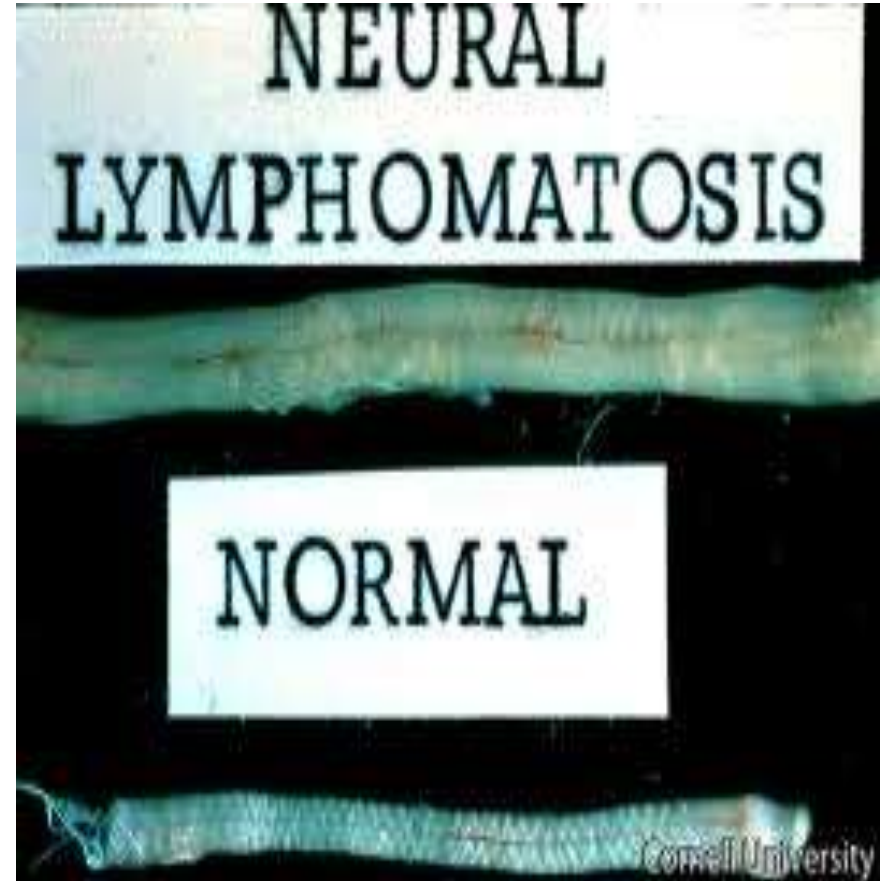
Forms Of Disease

- Visceral form –
- Proliferation of lymphocytes & are deposited in viscera organs (kidney, liver, spleen, gonads).
- Tumor may be nodular or diffused.
- Organs – very much enlarged & hard in consistency.
- Neural form –
- Proliferating lymphocytes deposited in PNS effecting sciatic & brachial plexus.
- Nodular formation in nerve cause unilateral / bilateral paralysis , striations are lost in nerves.

Visceral form



Neural Form



- Cutaneous form –
- Proliferating lymphocytes get deposited in skin producing nodular type lesions.
- Occular form –
- Protusion of eye ball, looks pearl like.

Occular Form



Abnormal pupil size



Diagnosis

- PM Findings
- Age
- Symptoms
- Radial Immunodiffusion Test
- MATSA (MD Associated Transforming Surface Antigen)
 - Non specific MD virus Ag, also present in HVT vaccinated chicken. It is diagnostic Ag.

Thank You