6-Avian Pox (Fowl Pox) (F.P)

***Definition: -** It is highly **contagious** disease of birds characterized by **cutaneous eruption** on **unfeathers** parts of body and or **diphtheritic membrane** of mucous membrane of **upper digestion and Respiratory tract**.

***Etiology: -** It is caused by avian **pox** virus,
belong to pox viridae family, **6** strains recognized:-

1-Fowl Pox Virus (FPV).
2-Turkey Pox Virus (TPV).
3-Pigeon Pox Virus (PPV).
4-Canary Pox Virus (CPV).
5-Sparrow Pox Virus (SPV).
6-Quail Pox Virus (QPV).

These viruses has **tropism** of **epithelial of skin** and **mucous membrane** producing **oval cytoplasmic inclusion body** (**Bollinger bodies**), it propagated in CAM and produced characterized grayish foci.

***Susceptibility**:-
1-Chicken, turkey, pigeon, canary, Quail, pheasant, sparrow and some other wild bird are susceptible, **all ages** and sex are susceptible.
2-Duck and geese are almost **resistance** to natural infection.

***Mode of Infection:-**
1-Infection occurs through **injured or lacerated skin** and mucous membrane in **head**.

2-Infection can occur by direct contact with **infected bird**.
3-Infection can occur by **bite** of mosquito, mite and other insects.
4-Virus show **resistance** to environmental condition.

***Incubation Period:** Vary from (4-10) days.

*Clinical Signs:-

The disease may occur in **4 Forms:-**

1-Dry Form (skin form, cutaneous form).
2- Moist Form (wet form, diphtheritic form).
3-Occular Form.
4-Mixed Form.

1-Dry Form (skin form, cutaneous form).

Characterized by the appearance **wart like nodular** lesion s on the **comb, wattle, eyelids**, and other **nonfeathered** areas of the body.

2- Moist Form (wet form, diphtheritic form).

1-Characterized by diphtheric **yellowish lesions** occur on the **mucous membranes** of the **mouth, tongue, esophagus, or trachea** with mild or severe **respiratory signs** and interfere with **eating, drinking, and breathing.**

2-As well as there are drop in **egg production** in layer.

3-Occular Form. The lesion may found in **eyelid**s and cause **complete closure** of both eyes, lead to **starvation and death**.

*Morbidity and mortality:-

If there are severe infection, the morbidity **10-90%**, and mortality **10-40%**.

*Gross lesion:-

1-Dry Form (skin form, cutaneous form).

1-The **characteristic lesion** of the cutaneous form of pox in chickens is a **local epithelial hyperplasia** involving epidermis with formation of **nodules** that first appear as **small white foci** and then rapidly **increase** in size and become **yellow**.

2-**Papules** are formed by the 5th-6th day, this is followed by **vesicular stage**, with formation of extensive **thick lesions**, and the lesions may coalesce and become **rough and gray or dark brown**.

3-After **2 weeks** or sometimes sooner, lesions have areas of inflammation and formation of a **scab.**

2- Moist Form (wet form, diphtheritic form):-

1-In the diphtheritic form, slightly elevated, **white opaque nodules or yellowish patches** develop on the **mucous membranes** of the mouth, esophagus, tongue, or upper trachea.

2-**Nodules** rapidly increase in size and coalesce to become a **yellow necrotic pseudodiphtheritic** or **diphtheritic membrane**, if the membranes are removed, they **leave bleeding erosions.**

3-The inflammatory process may extend into **sinuses, pharynx** and **larynx** and esophagus.

4-Often involvement of the **eyes and eyelids** may accompany the formation of lesions in other areas of skin as well as diphtheritic lesions.

*Microscopic lesions:-

1-The most important lesion of infection (whether the lesion is cutaneous, diphtheritic, or from infected CAM) is **hyperplasia** of the **epithelium** and enlargement of cells with associated inflammatory changes.

2-Characteristic **eosinophilic A type cytoplasmic inclusion bodies** (Bollinger bodies).

3-Histopathologic changes of **tracheal mucosa** include initial **hypertrophy and hyperplasia** of **mucus-producing cells** that contain esinophilic cytoplasmic inclusion bodies.

*Diagnosis:-

1-Clinical signs.

2- Blood examination (Wright's stain).

3-Neutrilization, ELISA.

4-Virus isolation.

*Differential Diagnosis:-

1-Vitamine A.

2-Trichomonas gallinae.

3-ILT.

4-Pantothenic acid or Biotin deficiency.

***Control:-**

First vaccination at (4th-8th) weeks.

Revaccination at (16-18) weeks.