

## Marie Curie Training Courses

Summer School 2007 – Avian V9/V10

### NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **Infectious Bursal Disease: Gumboro Disease**

- ☑ **Histological lesions: Practical**

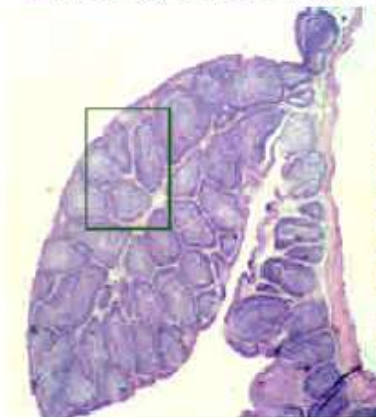
- ◆ V9 : Chicken, 33 days old, depression, diarrhea, acute onset of mortality (40%)
    - ◆ V10 : Chicken, 34 days old, growth retardation, diarrhea, mortality



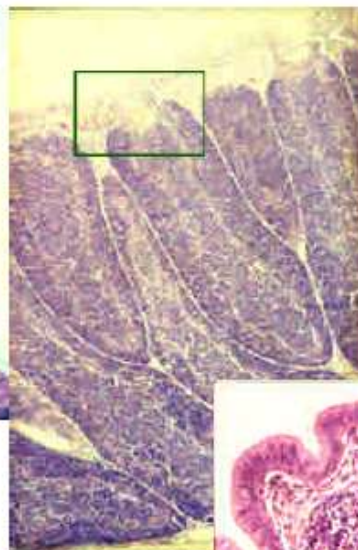
### NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **Infectious Bursal Disease: Gumboro Disease**

- ☑ **Histology of active bursa**

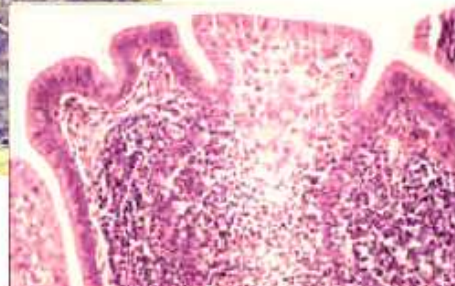


Mucosal fold with numerous follicles  
Distinct cortical and medulla  
Limited interstitial spaces



Cortical densely cellular  
Clear cortico-medullar  
limit  
Relationship with  
digestive lumen

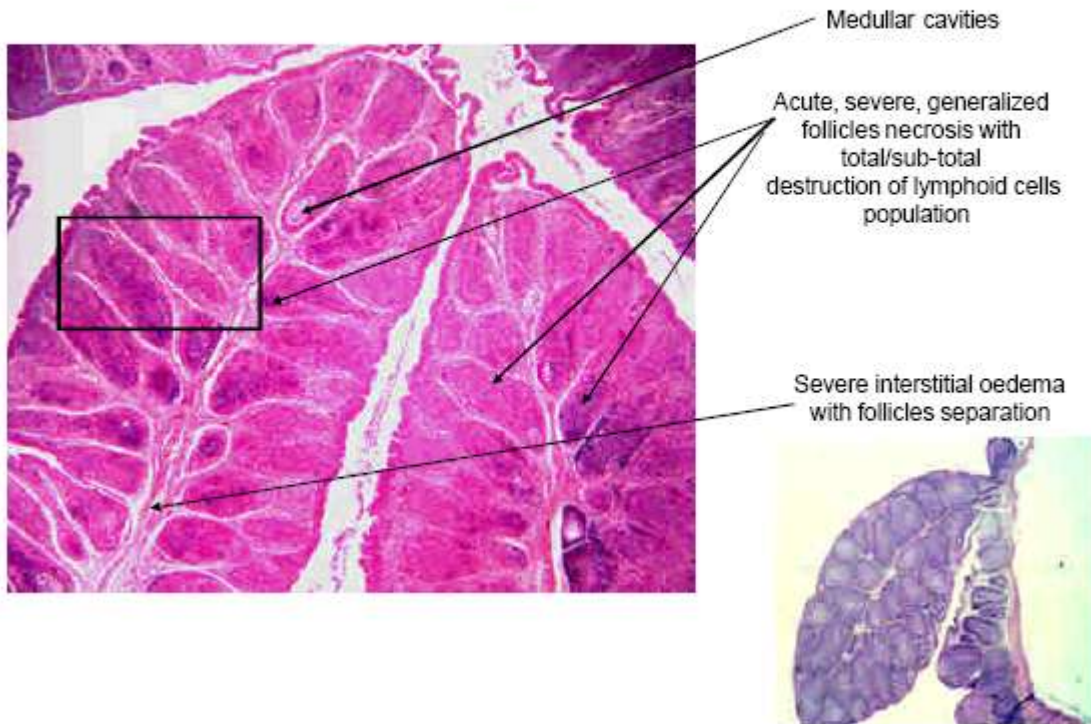
Lymphoid cells, Cortico-medullar epithelial basement  
membrane, epithelial cells associated with follicle



**NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES**

• **Infectious Bursal Disease: Gumboro Disease**

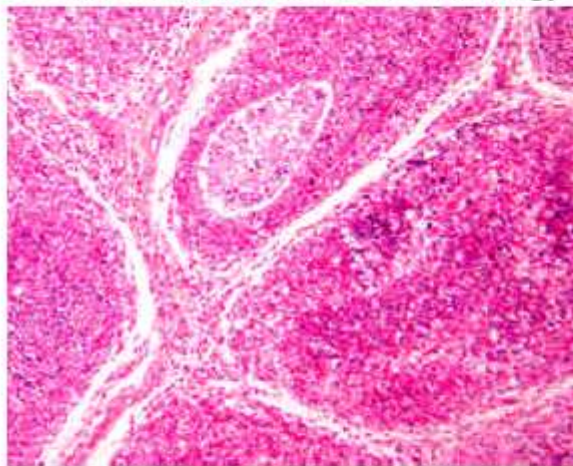
☒ V9 : Acute Bursal lesions: Histology (3 different bursae from the same flock)



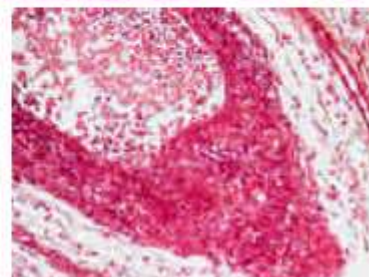
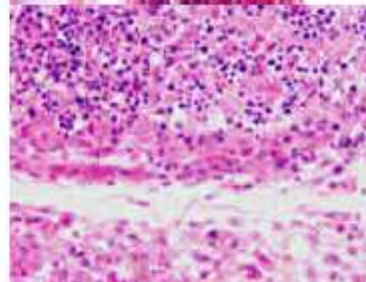
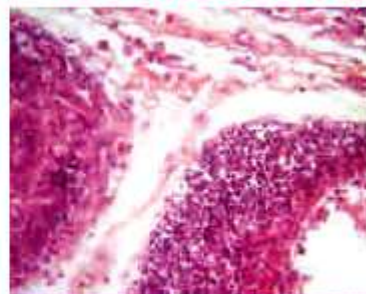
**NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES**

• **Infectious Bursal Disease: Gumboro Disease**

☒ V9 : Acute Bursal lesions : Histology



Severe pycnosis of lymphoid cells with lymphocytes depletion  
 Liquefactive necrosis of medulla + heterophils  
 Interstitial oedema and inflammatory infiltrate



**Conclusion:**

Acute, severe, generalized exsudative and necrotizing bursitis with total/subtotal lymphoid cells pycnosis:  
 Acute Infectious Bursal Disease: Gumboro Disease



## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- Infectious Bursal Disease: Gumboro Disease

- ☒ Acute Bursal lesions: Gross

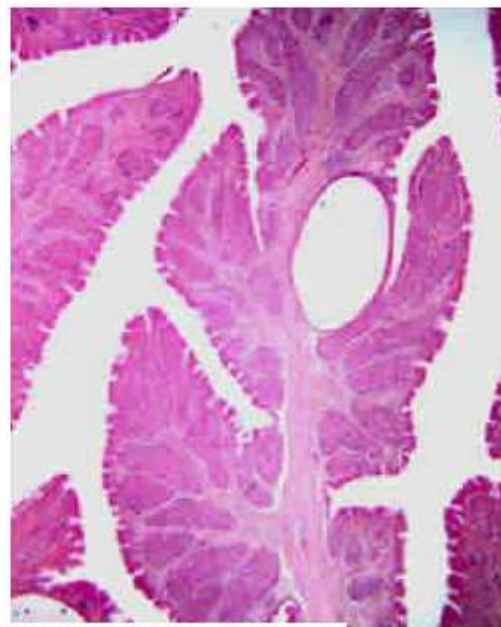
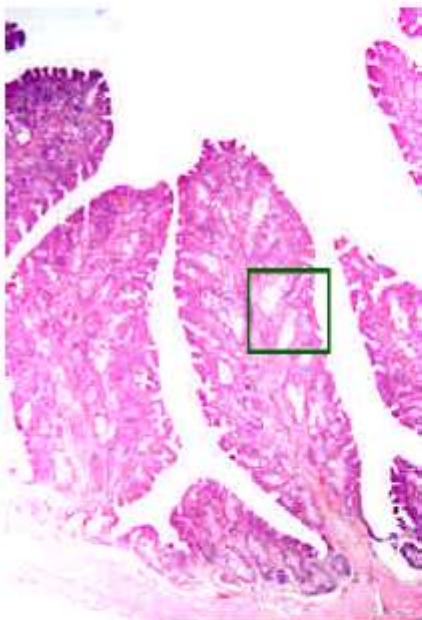


Bursal Hypertrophy +++, hyperhemia, oedema, ± abundant fibrino-caseous exsudate and/or diffuse hemorrhages (± degenerative nephritis)

## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- Infectious Bursal Disease: Gumboro Disease

- ☒ V10 : Subacute/chronic Bursal lesions: Histology (2 bursae)

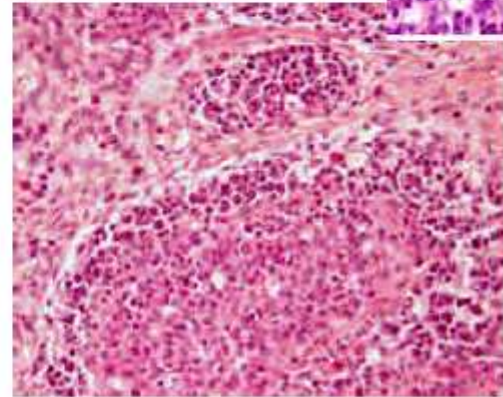
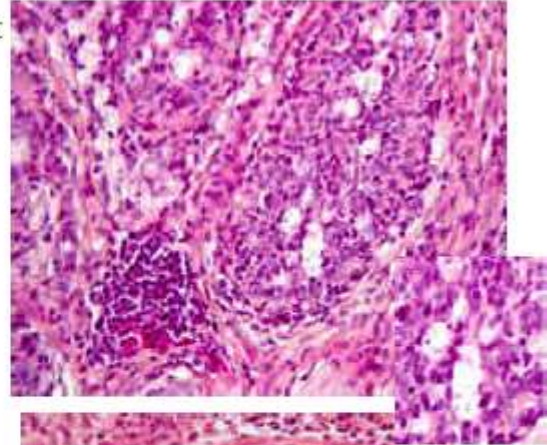
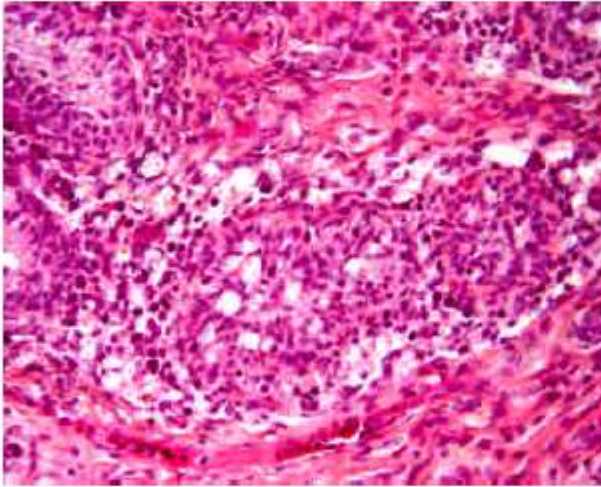


Folds and Follicles atrophy, Increased interfollicular spaces  
Total/subtotal lymphoid cells Aplasia, Intrafollicular cysts

## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

### • Infectious Bursal Disease: Gumboro Disease

📄 V10 : Subacute/chronic Bursal lesions:  
Histology (2 bursae)



Lymphoid cells aplasia, absence of pycnosis  
Activated macrophages in medullar zone  
Interstitial fibroplasia and sclerosis  
Interstitial lymphoid cells infiltration  
with partial rebuilding of the follicles

## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

### • Infectious Bursal Disease: Gumboro Disease

#### 📄 Conclusion

##### ↪ Acute form:

- ◆ Acute, severe, generalized exsudative and necrotizing bursitis, with sub-total or total pycnosis of the lymphoid cells population
- ◆ **Only IBDV** is capable of producing so severe and extensive necrotizing bursal lesions

**Acute bursal lesions histologically highly specific**

##### ↪ Sub-acute and chronic forms:

- ◆ Sub-acute or chronic generalized bursitis with total (sub-total) aplasia of the lymphoid cells population, follicles atrophy and severe interstitial fibroplasia and sclerosis, associated with ± partial follicles rebuilding
- ◆ Sequelae of acute necrotizing bursitis
- ◆ Absence of lymphoid cells pycnosis
- ◆ Other infectious avian viruses are able to induce close bursal lesions

**Sub-acute and chronic lesions histologically far less specific**