

## 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**

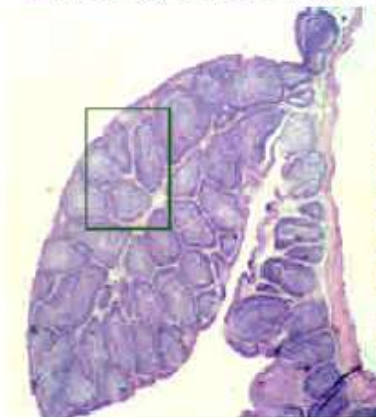
- ◆ V9 : Chicken, 33 days old, depression, diarrhea, acute onset of mortality (40%)
    - ◆ V10 : Chicken, 34 days old, growth retardation, diarrhea, mortality



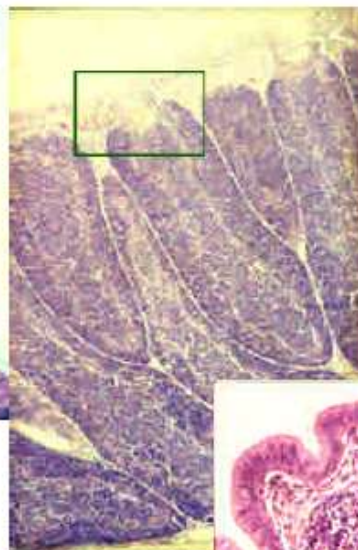
### NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **Infectious Bursal Disease: Gumboro Disease**

- ▣ **Histology of active bursa**

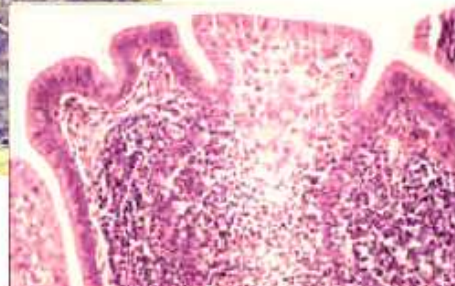


Mucosal fold with numerous follicles  
Distinct cortical and medulla  
Limited interstitial spaces



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

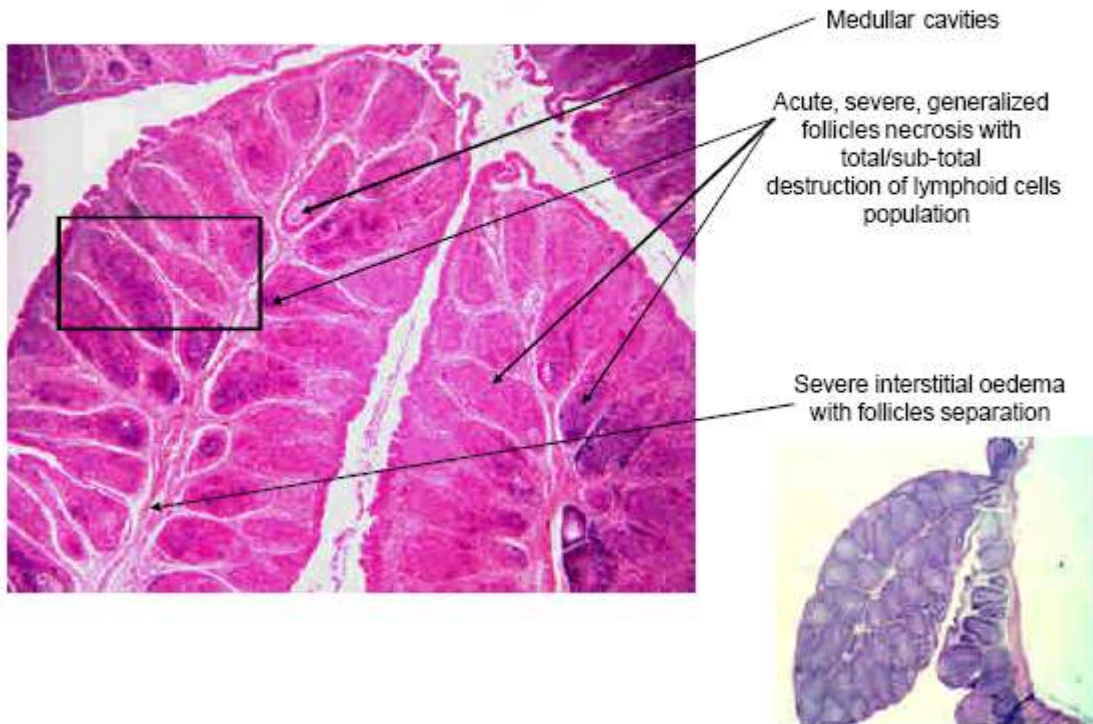
Lymphoid cells, Cortico-medullar epithelial basement  
membrane, epithelial cells associated with follicle



## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **Infectious Bursal Disease: Gumboro Disease**

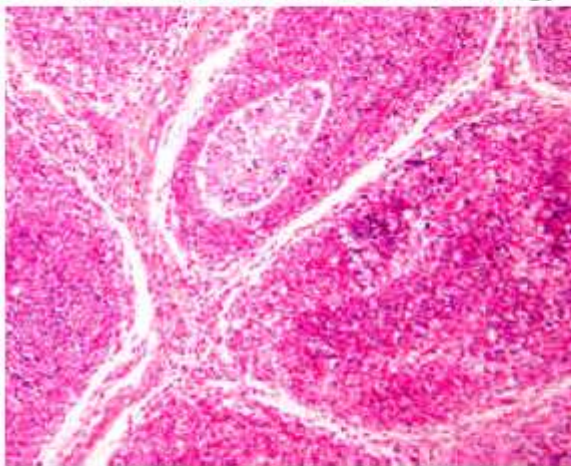
☑ V9 : Acute Bursal lesions: Histology (3 different bursae from the same flock)



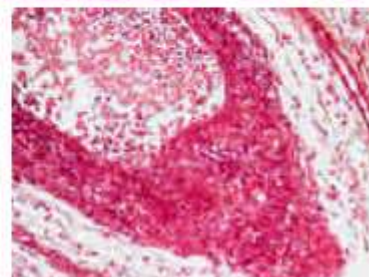
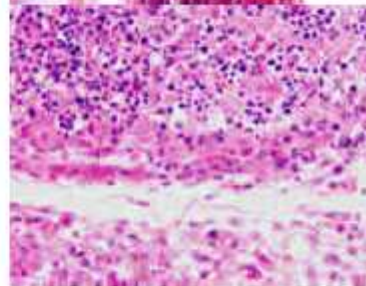
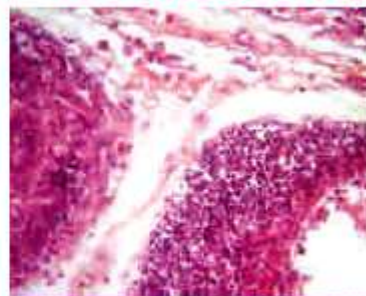
## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **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

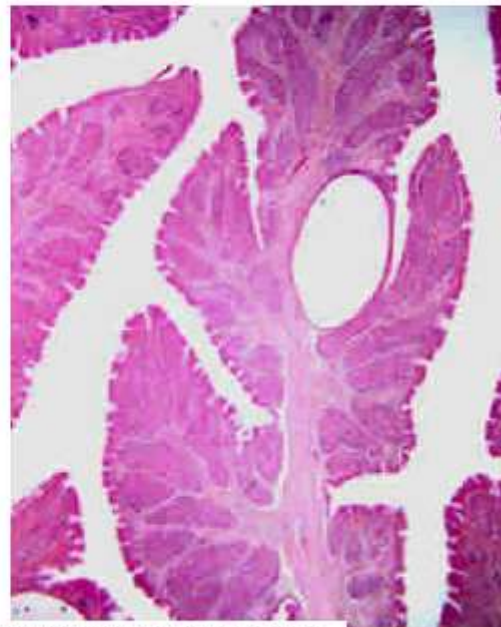
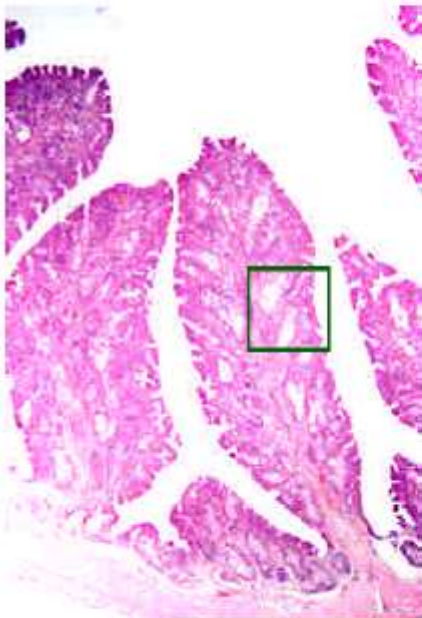


Bursal Hypertrophy +++, hyperhemia, oedema, ± abundant fibrino-caseous exsudate and/or diffuse hemorrhages (± degenerative nephritis)

## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- Infectious Bursal Disease: Gumboro Disease

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

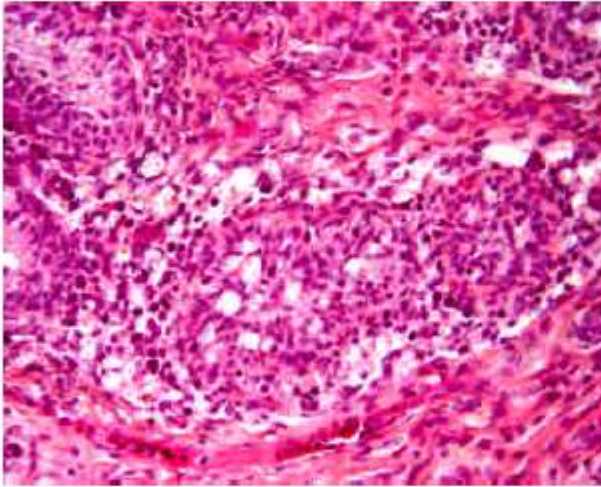


Folds and Follicles atrophy, Increased interfollicular spaces  
Total/subtotal lymphoid cells Aplasia, Intrafollicular cysts

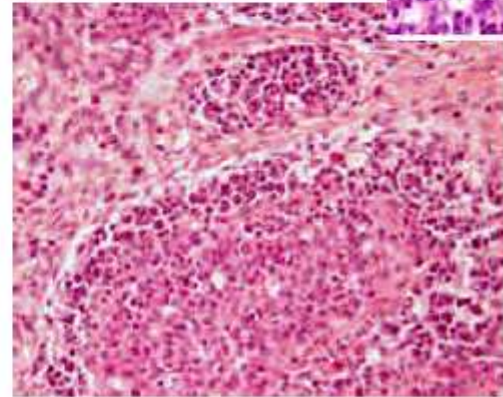
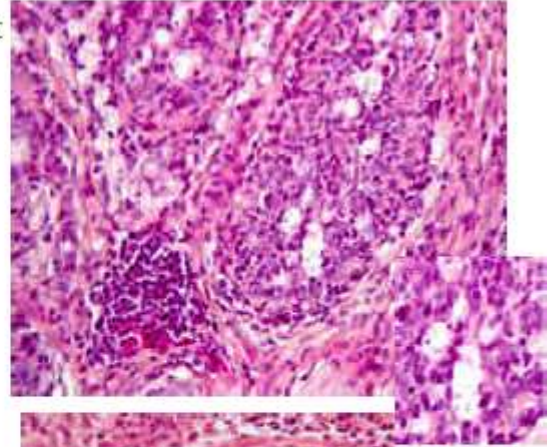
## NON TUMORAL AVIAN VIRAL DISEASES WITHOUT INCLUSION BODIES

- **Infectious Bursal Disease: Gumboro Disease**

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



Lymphoid cells aplasia, absence of pycnosis  
Activated macrophages in medullary 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**