



Tikrit University  
College of Veterinary Medicine

## Lect.3 Practical Virology

Subject name: Viral cultivation and embryonated chicken eggs

Subject year: Third-year

Lecturer name: Dr. Muthanna A. Sultan,  
Assist. Lecturer. Mariam Ahmed Zedan  
Academic Email:

[muthanna.sultan@tu.edu.iq](mailto:muthanna.sultan@tu.edu.iq)

[mariamahmed@tu.edu.iq](mailto:mariamahmed@tu.edu.iq)



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Lecturers link

## The cultivation of embryonated Chicken eggs:

-The type of egg is the factor which determined the way of cultivation and in general the embryonated chicken eggs is the most common type that have been used for cultivation.

-The most common parts of eggs which always using for the virus cultivation are:

- 1-Allantoic cavity.
- 2-Amniotic sac.
- 3-Yolk sac.
- 4- Chorioallantoic membrane(CAM).

## 1. Allantoic cavity:

- Inoculation is mainly in 9-11 day
- The purpose of this inoculation for production of vaccine of influenza virus, yellow fever, rabies.
- Most of avian viruses can be isolated using this method

## 2. Amniotic sac:

- Inoculation time in this method is 10-12 day
- Inoculation is mainly done for primary isolation of influenza virus and the mumps virus.
- Hemagglutination assay is the way to measure the growth and replication of virus in egg embryo.

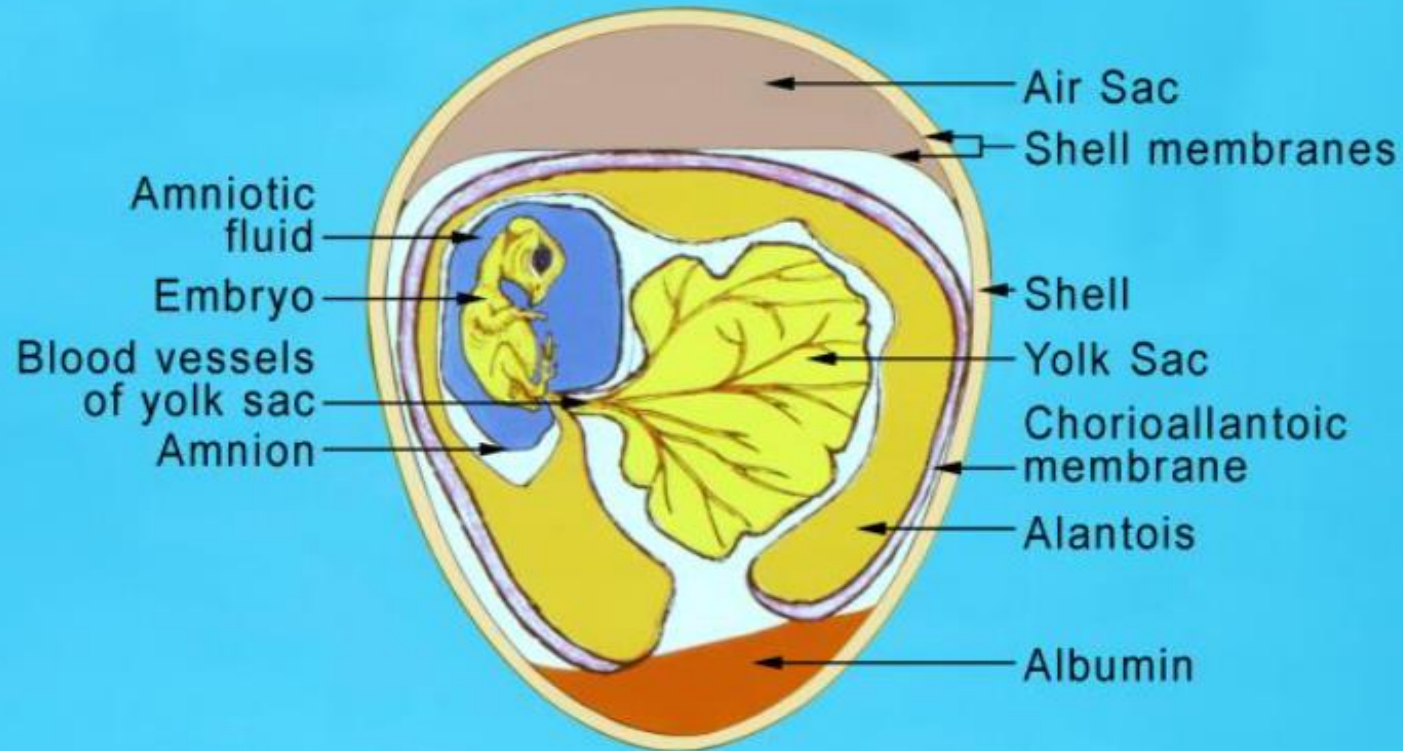
#### 4. **Yolk sac inoculation:**

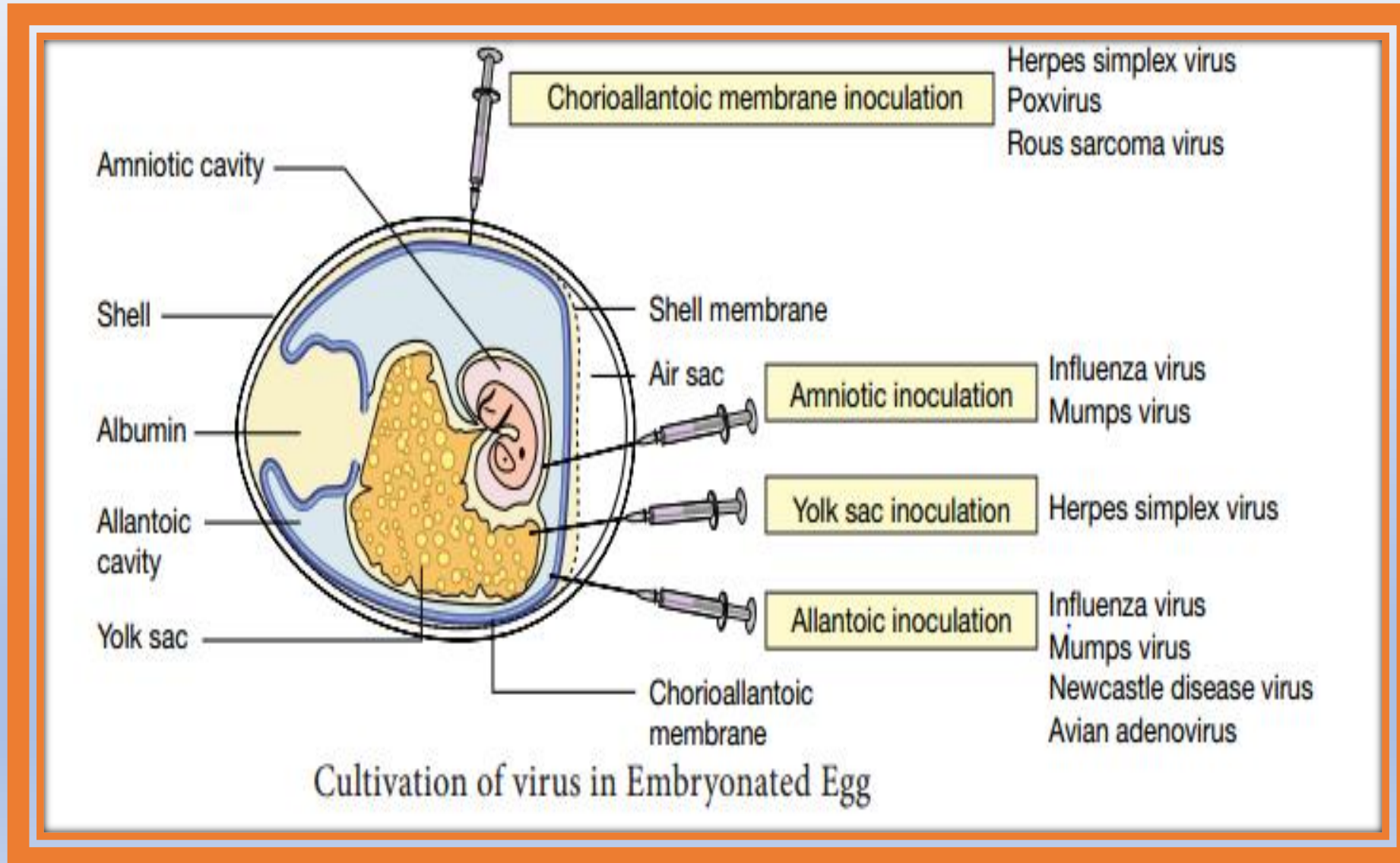
- Inoculation time is 7 days.
- It is also a simplest method for growth and multiplication of virus.
- This method used for cultivation of some viruses such as Paramyxo virus.

#### 3. **Chorioallantoic Membrane (CAM):**

- The time of inoculation in this part is 10-13 days
- Used mainly for Pox virus and Herpes virus
- After incubation , visible lesions called pocks are observed, which is grey white area in transparent CAM.

## Embryonated Egg





## Advantages of using embryonated eggs :

- 1- The space required for embryonated eggs is less than using of lab animals
- 2-No need for cleaning such as that used with cages of lab animals so in general required less laboring.
- 3-Easily labeled and identified
- 4-Embryonated eggs are considered such a good source to produce varieties of vaccines

## Disadvantages of using embryonated eggs :

- 1-It is NOT easy to cultivate the virus.
- 2-Can NOT be seen or examined under the light microscope.
- 3- Each virus has its own site of inoculation which requires different techniques and conditions for its growth.



Dr. Muthanna A. Sultan  
Biomedical sciences-Immunology & Microbiology

