

RESPIRATORY SYNCYTIAL VIRUS

Respiratory Syncytial Virus (RSV)

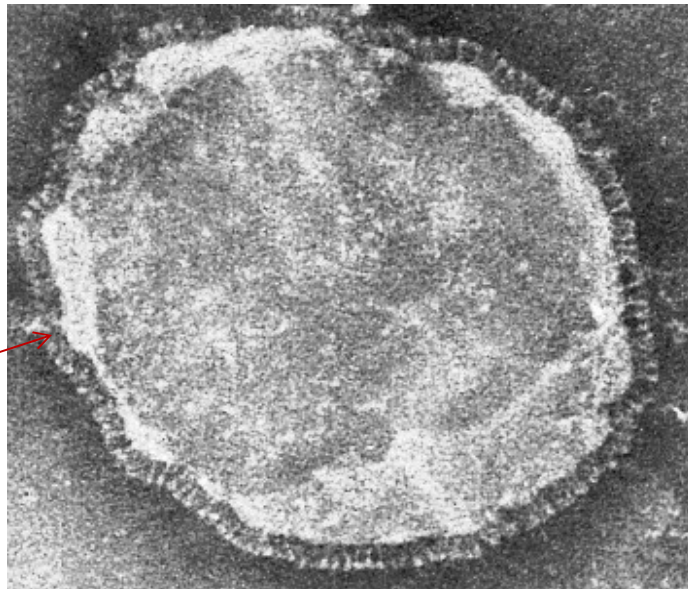
Is a major respiratory pathogen of young children

Properties

- **Family : Paramyxoviridae**
- **Enveloped virus, ss RNA**
- **Possess membrane associated proteins (M - protein)**
- **Re-infection is common (are of lesser severity)**
- **Gets its name from the fact that it causes large syncytial in cell culture**

- Produce a characteristic CPE
- Lack HA and NA
- Possess **fusion & glycoprotein** to effect virus attachment

M - protein



Epidemiology

- **World wide distribution**
- **Prime cause of bronchiolitis in young infants**
- **No protection against RSV from maternal antibody & infants exposed in the first 6 months of life can develop life threatening disease**
- **Virus is highly infectious & most children are exposed in their first year of life**
- **Infection occurs in seasonal epidemics, mainly during the early winter months**
- **Major nosocomial pathogen in pediatric wards**
- **Seasonal variations**

Transmission

- **Respiratory droplets, fomites**
- **A patient may shed virus for up to three weeks post infection**

Clinical features

- **Bronchiolitis, Broncho-pneumonia : in infants < 6 months of age (up to 70%)**
- **Acute bronchitis, in adults, especially the elderly**
- **Croup, in infants & young children (up to 10%)**

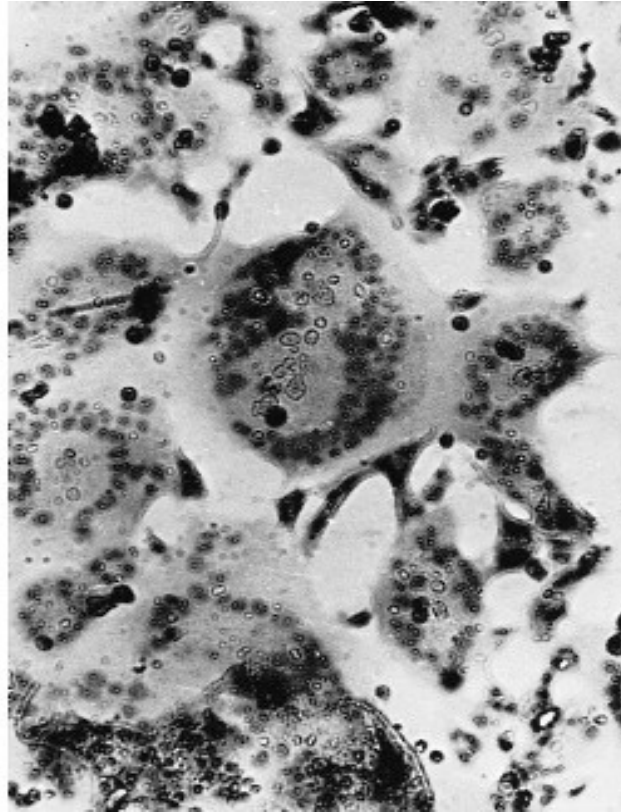
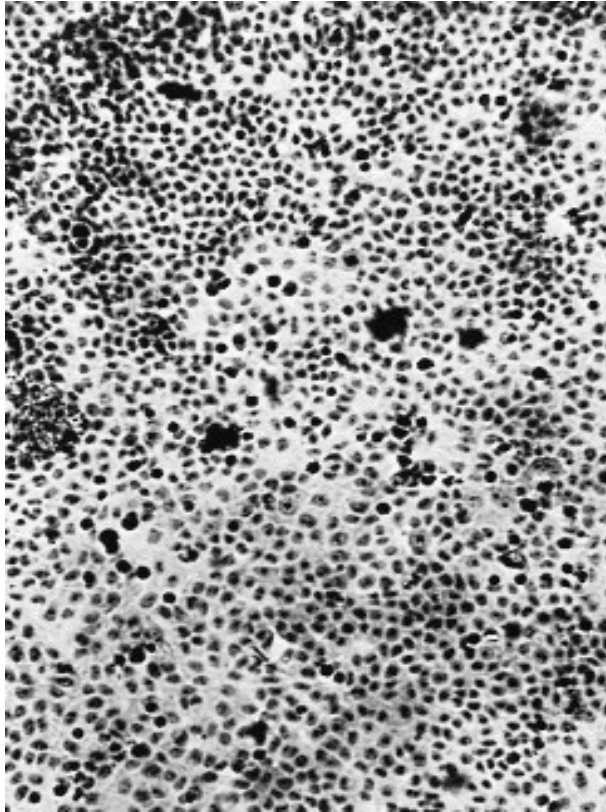
Lab. DX

Potential specimens:

- **Nasoparyngeal aspirates**
- **Nasal washings (tracheal secretions)**

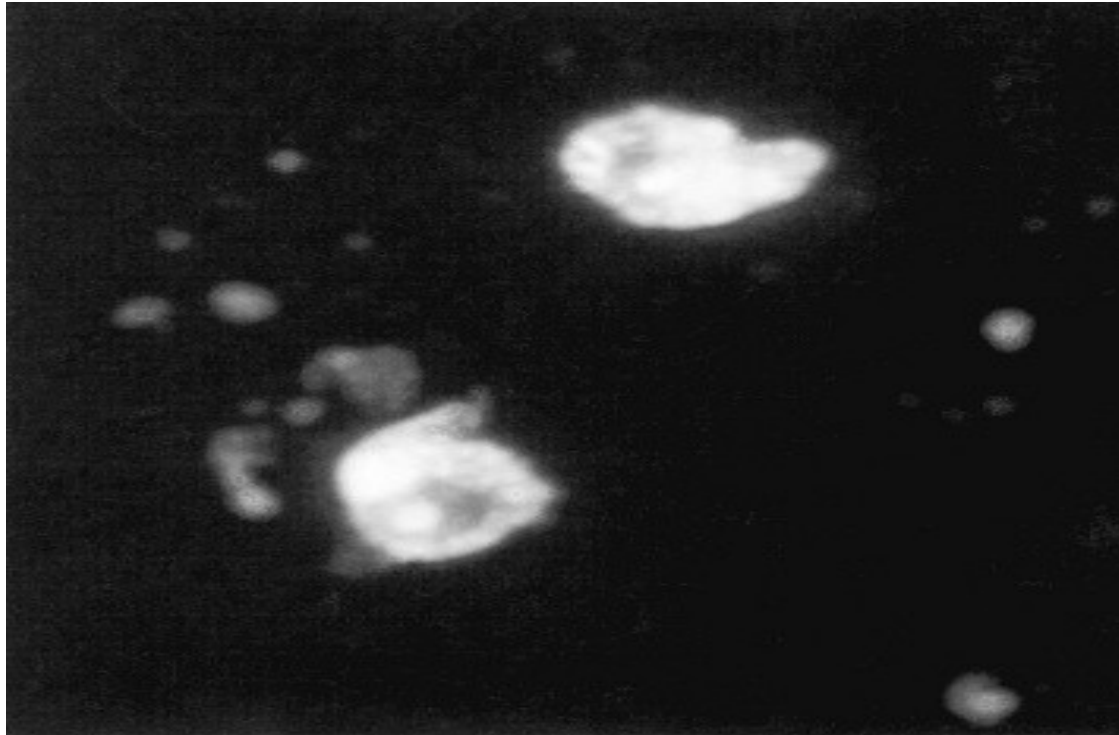
A. Identification of virus

Cell cultures (4-5 days)



Stained preparations of uninfected HeLa cells (left) and cells infected with RSV (right)

B. Immunofluorescent antibody testing



Positive indirect immunofluorescent antibody test on nasal secretions from an infant with lower respiratory tract disease due to RSV

Prevention & control

- **Avoiding of using contaminated fomites or objects**
- **Vaccine development**
- **Decrease contact with infected cases**