

RHINOVIRUSES

Rhinoviruses (RV)

- **Is responsible for about 30 - 60 % of common colds**
- **Exacerbate asthma & other airway disease**

(Blomqvist et al., 2002)

Properties

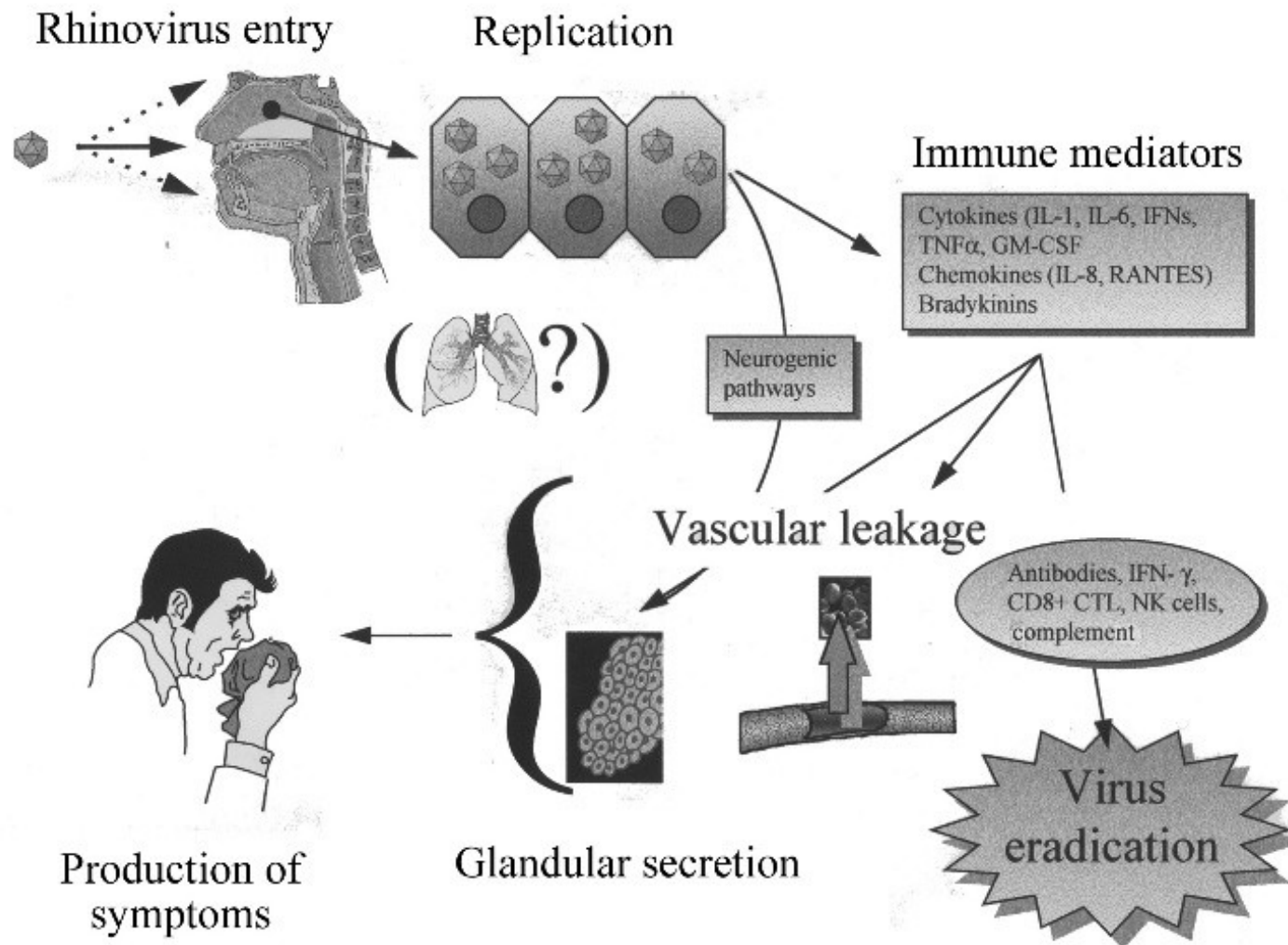
- **Family: Picornaviridae**
- **Small, un-enveloped ssRNA viruses**
- **100 antigenically distinct serotypes**
- **Acid labile**

Epidemiology

- **Global distribution**
- **Infections throughout the year (common in spring)**
- **Biology of RV include: antigenic shift & antigenic drift**

Transmission

Respiratory droplets & fomites



Rhinovirus entry and replication

Clinical manifestations

- **Incubation period : 1 to 3 days**
- **cough with fever**
- **headache**
- **sore throat**
- **Nasal obstruction**

The infection resolves in about a week.

Complications

- **Acute otitis media in children**
- **Cause of community acquired sinusitis**
- **Asthma episodes in schoolchildren**

Lab. Dx

A. Electron microscopy

B. Viral isolation

Cell culture: Human embryo lung fibroblasts

C. Direct detection of RV antigen

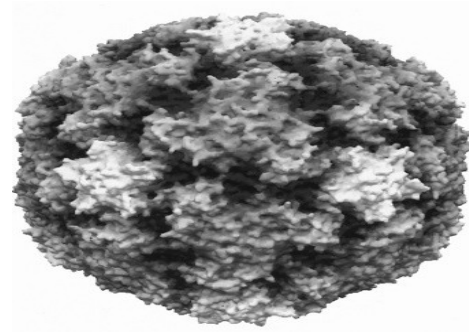
RV)

ELISA

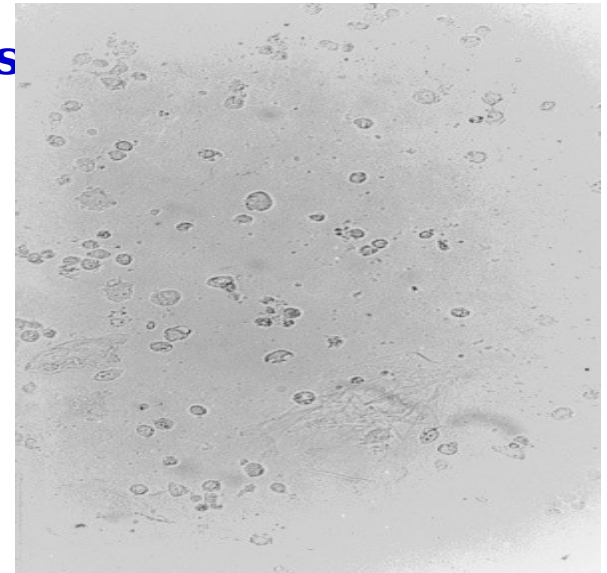
D. Serological tests

RV

Treatment : No specific Rx due to multiplicity of serotypes



*(Electron micrograph of
Human RV-14)*



Prevention & control

- **Avoid contact with infected individuals**
- **Vitamin C**