

SUMMARY

Respiratory syncytial virus is distinguished as a member of the pneumovirus, genus of the family paramyxoviridae. It is non segmented negative strand RNA virus that appeared to be the major cause of widespread outbreaks of bronchiolitis and pneumonia in infants and young children. The virus possesses both apoptotic and antiapoptotic properties.

This study aimed to detect the rate of RSV infection in children less than 5 years old and also to determine the role of apoptosis in the pathogenesis of respiratory tract infection caused by RSV in children.

This study included 45 patients suffering from symptoms and signs of respiratory tract infection and 10 patients free from symptoms and signs of respiratory tract infection were selected as control group.

All patients were subjected to the followings :

- 1- Full medical history taking.
- 2- Full clinical examination.
- 3- Radiologic examination (Chest X-ray).
- 4- Laboratory examination:
 - A- Nasopharyngeal aspirate sample collection and transport.
 - B- Direct immunofluorescence technique.
 - C- Diagnosis of RSV infection by cell culture technique.
 - i- Study of the CPE of RSV on HEP-2 cell line.
 - ii- Virus identification by immunofluorescence after cell culture.
 - D- Assessment of apoptosis by using:
 - i- Giemsa staining.
 - ii - Agarose gel electrophoresis for DNA fragmentaton.

This study showed that :

- 1- RSV infection was higher in infants suffering from bronchiolitis with age less than 1 year (80%) than in children > 2 years (50%).
- 2- RSV infection was slightly higher in males (80%) than females (72%).
- 3- RSV infection was significantly higher in patients with bronchiolitis than in patients with pneumonia and bronchopneumonia.
- 4- Direct immunofluorescence test is very sensitive test for diagnosis of RSV infection.
- 5- Virus isolation by cell culture is more specific than DIF test.
- 6- There was non statistically significant difference between DIF and DIF after cell culture for detection of RSV antigen.
- 7- Six (20%) of RSV infected HEP-2 cell lines showed apoptotic changes.
- 8- RSV infection insignificantly cause apoptosis in infected HEP-2 cells.