Indirect immunofluorescence technique versus polymerase chain reaction for the diagnosis of respiratory viruses in children admitted to a hospital in the Metropolitan Region [Inmunofluorescencia indirecta versus reacción de polimerasa en cadena para el diagnóstico de virus respiratorios en niños ingresados en un hospital de la Región Metropolitana]

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Background: Early viral detection in acute respiratory infections (ARI) is essential to establish appropriate therapy and prevent nosocomial transmission. Objective: To compare the efficacy of indirect immunofluorescence technique (IIF) with the polymerase chain reaction (PCR) to identify respiratory viruses in children hospitalized for ARI. Methods: 47 nasopharyngeal aspirates of children = 2 years with ARI were included. IFI included respiratory syncytial virus (RSV), adenovirus, influenza A and B and parainfluenza. PCR also included the detection of metapneumovirus, enterovirus/rhinovirus, bocavirus and coronavirus. Sensitivity, specificity, positive and negative predictive value (VPP/NPV) and kappa correlation for RSV were estimated by IIF compared to PCR. Results: The IIF detected only RSV (29; 61.7%). PCR detected several viruses, including RSV in 26 cases (55.3%), followed by bocavirus (29.8%), rhinovirus/enterovirus (21.3%), adenovirus (14.9%) and parainfluenza (4,3%) among others, with 35.5% of coinfection. The IIF presented sensitivity: 85.7%, specificity: 73.6%, PPV: 82.7%, NPV: 77.7% and kappa: 0.5990 (95% CI, 0.3636-0.8346) for RSV. Conclusion: The IIF presents good sensitivity, but moderate specificity for RSV. However, IIF fails to detect other respiratory viruses. The introduction of PCR would improve the etiological diagnosis of ARI of viral origin.

Acute respiratory infection

Indirect immunofluorescence

Polymerase chain reaction

Respiratory viruses

DNA virus

adolescent

child

Chile

comparative study

cross-sectional study

female

human

indirect fluorescent antibody technique

infant

isolation and purification

male

nasopharynx

polymerase chain reaction

preschool child

procedures

prospective study

reproducibility

respiratory tract infection

RNA virus

sensitivity and specificity

virology

virus

Adolescent

Child

Child, Preschool

Chile

Cross-Sectional Studies

DNA Viruses

Female

Fluorescent Antibody Technique, Indirect

Humans

Infant

Male

Nasopharynx

Polymerase Chain Reaction

Prospective Studies

Reproducibility of Results

Respiratory Tract Infections

RNA Viruses

Sensitivity and Specificity

Viruses