

age of 7 years, and only 7.6% continued to be symptomatic at 18 years. In 6.7% of the participants asthma symptoms appeared between 7 and 18 years of age (late-onset asthma). In almost half (48.2%) of these children symptoms were persisting at the age of 18 years.

CONCLUSIONS: These findings illustrate that asthma remains a significant health care problem for Greek children and adolescents. Continued surveillance of asthma prevalence and its longitudinal predictors is necessary to assist health care professionals with adequately informing children and their parents on the course of the disease.

CONGENITAL MALFORMATIONS ASSOCIATED WITH PESTICIDES IN ENCARNACIÓN, PARAGUAY

Submitted by Stela Benitez Leite

Stela Benítez Leite^a, Marta Acosta^b, María Luisa Macchi^a
^aFaculty of Medical Sciences, National University of Asunción, Asunción, Paraguay; ^bRegional Hospital of Encarnación, Itapúa, Paraguay

INTRODUCTION: Exposure to pesticides is a known risk to human health. The association between parental exposure and congenital malformations is described.

OBJECTIVE: We sought to study the association between exposure to pesticides and congenital malformations in newborns who were born at the Regional Hospital of Encarnación in Itapúa, Paraguay.

METHODS: This was a prospective case and control study from March 2006 to February 2007. A case was defined as a newborn who was born with congenital malformations, and a control case was defined as a newborn of the same gender who was born immediately after and was found to be healthy. The exposure to pesticides was considered along with other risk factors that are known to cause congenital malformations.

RESULTS: The cases (52) and controls (87) were analyzed. The average number of births per month was 216. The risk factors that were significantly associated were living near fumigated fields (odds ratio [OR]: 2.46 [95% confidence interval (CI): 1.09–5.57]; $P < .02$), having pesticides in the house (OR: 15, 35 [95% CI: 1.96–701.63]; $P < .003$), direct or accidental contact with pesticides (OR: 3.19 [95% CI: 0.97–11.4]; $P < .04$), and history of family malformations (OR: 6.81 [95% CI: 1.94–30.56]; $P < .001$). The other risk factors known to cause malformations did not have statistical significance.

CONCLUSIONS: The results show an association between the exposure to pesticides and congenital malformation in newborns who were born at the Regional Hospital of Encarnación. Future studies are required to confirm these findings.

THE GLOBAL BURDEN OF CHILDHOOD OTITIS MEDIA AND HEARING IMPAIRMENT: A SYSTEMATIC REVIEW

Submitted by Hasantha Gunasekera

Hasantha Gunasekera^a, Leigh Haysom^a, Peter Morris^b, Jonathan Craig^c

^aChildren's Hospital at Westmead, Sydney, Australia;

^bMenzies School of Health Research, Darwin, Australia;

^cSchool of Public Health, University of Sydney, Sydney, Australia

INTRODUCTION: The World Health Organization resolved that chronic otitis media and resultant hearing impairment are significant global health problems and called for more detailed epidemiological information, particularly the association between prevalence and socioeconomic variables.

OBJECTIVE: We sought to determine the worldwide prevalence of otitis media (OM) and hearing impairment (HI) and their risk factors.

METHODS: We searched Medline, Embase, and Cinahl for population-based studies with incidence or prevalence data on OM and HI (>25 dB) in children (<18 years), without language restrictions. Studies identified through reference lists were also included. We examined the effect of socioeconomic and health variables on OM and HI prevalence.

RESULTS: The search strategy identified 1504 studies with substantial methodologic variation. They included studies ($n = 108$) that provided a combined sample size of 250 978 children. Acute OM incidence ranged from 0.6 to 1.7 episodes per child per year. The highest OM prevalence rates were in Inuits (81%) and Australian Aborigines (84%). HI prevalence ranged from <1% (Greece) to 23% (Australian Aborigines), and HI was significantly more common in children with OM (odds ratio [OR]: 8.11 [95% confidence interval (CI): 6.91–9.52]). In meta-analysis, increased OM prevalence was associated with not breastfeeding (OR: 1.28 [95% CI: 1.03–1.59]) and parental smoking (OR: 1.73 [95% CI: 1.42–2.10]), but male gender (OR: 1.04 [95% CI: 0.90–1.20]) and urbanization (OR: 0.72 [95% CI: 0.28–1.83]) were not significant. Some studies reported increased OM prevalence with overcrowding, lower maternal education, and poorer household sanitation.

CONCLUSIONS: Indigenous children have the highest prevalence of OM and its complications. OM remains a significant cause of preventable childhood HI, and many of the risk factors are modifiable.

HUMAN BOCAVIRUS IN GREEK CHILDREN WITH RESPIRATORY TRACT INFECTION

Submitted by Katerina Haidopoulou

Katerina Haidopoulou^a, Maria Eboriadou^b, Stratos Saliakelis^a, Myrofora Goutaki^a, Lambrini Damianidou^b, Vassiliki Pavlidou^c, Anna Papa^c

^aFourth Department of Pediatrics, Papageorgiou Hospital, Thessaloniki, Greece; ^bSecond Department of Pediatrics, AHEPA Hospital, Thessaloniki, Greece; ^cA' Department of Microbiology, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece

INTRODUCTION: Human bocavirus (family *Parvoviridae*) was recently identified in children with respiratory tract infection (RTI), first in Sweden, and subsequently in different parts of the world.

OBJECTIVE: The aim of our study was to gain insight into the epidemiology of bocavirus in children with RTI in Greece.

METHODS: One hundred ten throat-swab samples were collected during the autumn and winter months of 2006–2007 from previously healthy children (aged 1 month to 13 years) who were hospitalized for RTI. DNA was extracted from the samples, and polymerase chain reaction was performed to amplify the *NS1* gene of the bocavirus genome. Polymerase chain reaction products were sequenced and compared with respective bocavirus sequences.

RESULTS: Bocavirus DNA was detected in 10 samples (9%). Comparison with previously identified bocavirus sequences showed a high degree of identity. Mean age of the children was 1.8 years (range: 2 months to 4 years). The most common symptoms were fever, cough, and various degrees of respiratory distress. A majority of the children (9 of 10) were clinically diagnosed as having lower RTI, mainly acute bronchiolitis and pneumonia.

CONCLUSIONS: This is the first report of human bocavirus infection in Greece, which suggests that the virus is spread worldwide, and it is associated with RTI in infants and young children.

GENETIC CHARACTERIZATION OF THE F PROTEIN OF RESPIRATORY SYNCYTIAL VIRUS STRAINS ISOLATED IN THE BEIJING, CHINA, AREA

Submitted by Qi Lu

Qi Lu^a, Kunling Shen^b, Wenbo Xu^c, Yang Zhang^c, Zhen Zhu^c

^aChildren's Hospital, Chongqing University of Medical Sciences, Chongqing, China; ^bBeijing Children's Hospital, Beijing, China; ^cChina Center for Disease Control and Prevention, Beijing, China

INTRODUCTION: Respiratory syncytial virus (RSV) is the most common viral pathogen for lower respiratory tract infection among young children. However, pathogenic mechanisms and molecular characteristics of RSV are still not completely understood, so the development

of an effective vaccine has been hindered. F protein has been shown to be a potential RSV subunit vaccine candidate, so the study on genetic characteristics of F protein may be important for further investigation.

OBJECTIVE: Our goal was to determine the genetic characteristics of the F protein.

METHODS: Seventy-six strains of human RSV were isolated from 2001 to 2004 in Beijing, China, of which 6 representative strains were chosen.

RESULTS: Among the 6 Beijing isolates, 4 belonged to subgroup A. The F gene of the isolates shared 97.0% to 97.4% nucleotide sequence identity and 92.1% to 93.0% amino acid sequence identity. They were highly homologous with GenBank Nos. AY198175, AY198176, and AY198177 (China Hebei). The other 2 isolates belonged to subgroup B, and 97.3% and 98.2% sequence identity was seen at nucleotide and amino acid levels, respectively. The nucleotide sequences of subgroup B showed the highest identities with GenBank Nos. NC001781 and AF013254. Phylogenetic analysis of nucleotide sequences revealed that those 4 within group A were monophyletic and closely related to each other, but those 2 within group B were distributed in 2 distinct clusters. AA200-225 and AA259-278 on the F gene are conservative between subgroups A and B.

CONCLUSIONS: Subgroup A and B strains cocirculated, which indicates that there were different transmission chains in Beijing from 2001 to 2004. AA200-225 and AA259-278 are potential segments to develop an effective vaccine in Beijing or even in China.

SEROEPIDEMIOLOGY OF HEPATITIS A IN GREEK CHILDREN

Submitted by Vassiliki Papaevangelou

Amalia Kyrka^a, Athanassios Tragiannidis^b, Katerina Pantelaki^c, Andreas Tzivaras^c, Fotini Athanasiadou^b, Andreas Konstantopoulos^a, Vassiliki Papaevangelou^a
^aSecond Department of Pediatrics, Panagiotis and Aglaia Kyriakou Children's Hospital, University of Athens, Athens, Greece; ^bSecond Department of Pediatrics, Aristoteles University of Salonica, AHEPA General Hospital, Thessaloniki, Greece; ^cBlood Bank Laboratory, Agia Sophia Children's Hospital, Athens, Greece

INTRODUCTION: Hepatitis A is a vaccine-preventable disease with epidemiology that has changed over the past decades. In Greece, the vaccine has been available and recommended, but no universal mass vaccination has been implemented as yet.

OBJECTIVE: We sought to study the seroepidemiology of hepatitis A in Greek children.

METHODS: The seroepidemiology of hepatitis A in children 0 to 14 years of age living in Greece was studied. We collected 100 sera per year of age, stratified by geographic region. Demographic data and documented

HUMAN BOCAVIRUS IN GREEK CHILDREN WITH RESPIRATORY TRACT INFECTION

Katerina Haidopoulou, Maria Eboriadou, Stratos Saliakelis, Myrofora Goutaki, Lambrini Damianidou, Vassiliki Pavlidou and Anna Papa

Pediatrics 2008;121;S107

DOI: 10.1542/peds.2007-2022RR

Updated Information & Services

including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/121/Supplement_2/S107.3

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
International Child Health
http://www.aappublications.org/cgi/collection/international_child_health_sub
Pulmonology
http://www.aappublications.org/cgi/collection/pulmonology_sub
Respiratory Tract
http://www.aappublications.org/cgi/collection/respiratory_tract_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

HUMAN BOCAVIRUS IN GREEK CHILDREN WITH RESPIRATORY TRACT INFECTION

Katerina Haidopoulou, Maria Eboriadou, Stratos Saliakelis, Myrofora Goutaki, Lambrini Damianidou, Vassiliki Pavlidou and Anna Papa

Pediatrics 2008;121;S107

DOI: 10.1542/peds.2007-2022RR

The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://pediatrics.aappublications.org/content/121/Supplement_2/S107.3

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2008 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

