

인플루엔자 바이러스 감염 소아 환아에서 Oseltamivir 약제 효용성과 단기간 · 장기간 부작용 및 안전성에 관한 임상연구

서은선 · 박근화 · 김성미 · 김성원 · 정우식 · 조경순
박연경 · 이창규 · 강 춘 · 이주연 · 최우영
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Oseltamivir efficacy, side effects, and safety in children with influenza

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Abstract

Purpose : Although oseltamivir is widely used for treatment of influenza, few clinical studies of its efficacy and resistance have been performed in Korea. We evaluated the safety, side and efficacy of oseltamivir treatment in Korean pediatric patients.

Methods: We analyzed 321 children diagnosed with influenza at Busan St. Mary's Medical Center, Korea, between January 2008 and June 2008 (first study period) and November 2008 and January 2009 (second study period). Patients were divided into two groups: those receiving oseltamivir treatment for 5 days and those receiving only symptomatic treatment.

We investigated clinical symptoms, side effects, and resistance to oseltamivir. We also identified influenza strains and evaluated resistance to oseltamivir using an influenza virus culture.

Results : One hundred eighty-six patients were assigned to the treatment group, and 135 were assigned to the control group. The treatment group showed shorter admission duration (4.4 days) compared with controls (5.5 days) ($P=0.000$) and had fewer lower respiratory tract complications compared with controls ($P<0.05$). No significant statistical difference in the virus antigenic type was observed between the groups. In the first study period, virus culture showed influenza B (41.7% vs. 49.6%), A/H3N2 (7.9% vs. 8.4%), and A/H1N1 (9.4% vs. 6.5%). In the second study period, only A/H1N1 (55.3% vs. 50.0%) was isolated, except for one case of A (H3N2) in the treatment group. No differences in short- and long-term side effects, including neuropsychologic side effects, were noted between groups. There was no resistance to oseltamivir before or after treatment in the first study period.

Conclusion : Based on our results, we suggest that oseltamivir therapy in pediatric patients is effective. (Korean J pediatr 2010;53:56-66)

Key Words : Influenza, Oseltamivir, Efficacy, Resistance

인체 장기 부위별 인유두종바이러스 감염 분포 및 유전자 유형

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Abstract

There has been reported that Human Papilloma Virus(HPV) might involve the development of non-genital cancer and male genital cancer. This preliminary study attempted to evaluate the prevalence of HPV infection and genotypes on the male genital disease and non-genital cancers. Body fluid, fresh tissue, and paraffin-embedded tissue were studied by HPV DNA chip made in Korea. The positive rate of HPV was 63.2%(16/19) of urologic patients visiting local clinics, which consisted of 6 cases of HPV 6(50%), 3 cases of HPV 11(25%), 1 case of HPV 16(8.3%), 1 case of HPV 54/58 double infection 1(8.3%), a case of HPV 11/18/31/45 multiple infection. The esophageal, stomach, and urinary bladder cancers did not show the HPV. Two colorectal cancer patients(5%) showed HPV 16 and 16/70, respectively. Five laryngeal papilloma patients showed HPV 6(60%) HPV 11(40%), and one laryngeal squamous cell carcinoma patients showed HPV 35. Gynecologic patients showed 30.1%(262/863), which consisted of HPV 16(19.5%), HPV 70(11.8%), HPV 18(11.1%), HPV 58(4.6%) etc. These results suggested that HPV test including genotyping needs prevention and management of non-gynecologic cancers and the feasibility of HPV vaccine for male patients having genital disease should be considered.

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Comparison of Chemicals in *Lagerstroemia speciosa*(L.) Pers. at Growing Stage Levels by GC-MS

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Abstract

Banaba, *Lagerstroemia speciosa*(L.)Pers.(Lythraceae) is a tree that grows in the tropic islands of the Pacific. This plants are used for medical purposes in the world. The components of *L. speciosa* were analyzed for the contents according to growing stages at leaves. The distributions of the corosolic acid (2 α , 3 β -dihydroxyurs-12-en-28-oic acid), Phytol, campesterol, and vitamin E were rich among samples in this study. These were contained much fatty acids.

The mean content of palmitic acid was from 2.4% across all growing stages, varying from 2.15% for young leaves with the lowest content and 2.86% for fallen leaves with the highest content. Oleic acid, linoleic acid, and linolenic acid were contained nearly mean 2.0% in all leaves of banaba. Our results have shown that the phytochemical profile of young *L. speciosa* leaves differs quite radically from that of old *Lspeciosa* leaves, In addition, these subdividing results according to plant growth should allow future researches to conduct targeted experimental studies and use of particularmedical components of interest, examining chemical variation on the inter-developmental level.

Keywords : banaba, *Lagerstroemia speciosa*, components, GC-MS, growing stage

Molecular characterization and Phylogenetic Analysis of Season Influenza Virus Isolated in Busan during the 2006–2008 Seasons

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Abstract

To monitor newly emerged influenza virus variants and to investigate the prevalence pattern, our laboratory performed isolation of the viruses from surveillance sentinel hospitals. In the present study, we analysed influenza A/H1N1, A/H3N2, B viruses isolated in busan during the 2006/07 and 2007/08 seasons by sequence analysis of the hemagglutinin (HA1 subunit) and neuraminidase (Na) genes. The isolates studied here were selected by the stratified random sample method from a total of 277 isolates, in which 15 were A/H1N1, 16 were A/H3N2 and 29 were B. Based on the phylogenetic tree, the HA1 gene showed that A/H1N1 isolates had a 96.7% to 97.7% homology with the A/Brisbane/59/2007, A/H3N2 isolates had a 98.4% to 99.7% homology with the A/Brisbane/10/2007, and B isolates had a 96.5% to 99.7% homology with the B/Florida/4/2006(yamagata lineage), which are all the vaccine strains for the Northern hemisphere in 2008~2009 season. In the case of the NA gene, A/H1N1 isolates had 97% to 98.5 homologies, A/H3N2 isolates had 98.9% to 99.4% homologies and B isolates had 98.9% to 100% homologies with each vaccine strain in the 2008~2009 season, respectively. Characterization of the hemagglutinin gene revealed that amino acids at the receptor-binding site and N-linked glycosylation site were highly conserved. These results provide useful information for the control of influenza viruses in Busan and for a better understanding of vaccine strain selection.

Key words : Hemagglutinin (HA), influenza, neuraminidase (NA), phylogenetic tree.

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Genetic Characterization for Human Enterovirus Isolated from Busan Region in Korea

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Abstract

Human enteroviruses (HEV) are considered one of the major infectious causes of central nervous system infections such as aseptic encephalomeningitis in pediatrics. This study was focused on providing information related to genetic characteristics and diversities of HEV which prevailed between 2007 and 2009 in Busan, Korea. A total of 2,743 specimens were collected from children and screened for isolation of HEV by cell culture and RT-PCR. Among the specimens, 240 isolates were grouped into 21 different HEV serotypes using VP1 RT-PCR. The major etiological agents were CV-A6 and CV-B2 in 2007, E-6 and E-30 in 2008 and CV-B1 in 2009. The occurrence of HEV infections was the most frequent in the summer (May to August, 188 cases, 78.3%). Most of the isolates were identified from specimens from children under 10 years old, with the highest occurrence in the 2 to 4 year old range (15.2%). However, there were no significant differences between male and female children for the isolates. For analyzing genetic characterization, VP1 gene was amplified by RT-PCR and sequenced. The phylogenetic tree was established by Clustal W method using DNASTAR software. Using the sequence analysis of the VP1 region, it was classified into 2 groups; HEV-A and HEV-B. The HEV-A group contained 6 serotypes and sequences of 31 isolates were compared within each serotype. The HEV-B group contained 10 serotypes and the sequences of 41 isolates were compared within each serotype. Homology analysis of the VP1 region showed that the identity scores of HEV-A and B isolates were different. In conclusion, genetic divergences were observed among the isolates from children between 2007 and 2009 in Busan.

SEASONAL AND SPATIAL DISTRIBUTION OF DIOXIN AND DIOXIN LIKE PCB IN AMBIENT AIR OF BUSAN, SOUTH KOREA

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Abstract

Dioxin(PCDF/PCDD) and dioxin-like PCBs(co-planar PCBs) are globally wide spread and persistent organic pollutants. They have never been commercially manufactured but are unintentional by-products of incineration and chemical processes that involve chlorine-containing substances. Researchers have found that once dioxin and dioxin-like PCBs are emitted into atmosphere, they may be deposited locally or undergo long-range transport before deposition. The aim of this study was to identify the characteristics of dioxin and dioxin-like PCBs distribution on ambient air in Busan, South Korea. And the concentration and congener profiling of dioxin and dioxin-like PCBs in different ambient air samples were compared. Four different sites were selected in 2008 : industrial site, commercial site resident site and green site. Dioxin concentration at real value and TEQ value ranged 0.237~45.876 pg m⁻³ and 0.016~0.243 pg-TEQ m⁻³, respectively. Seasonal variation of level is evident with higher levels in winter than in summer at most sites. Our results showed that dioxin and dioxin-like PCBs levels in ambient air collected in green site are at lower end of the published data range. The annual average ratio of particulate/gaseous was the highest in the green site at both real value and TEQ value. In most samples, the contribution of dioxin-like PCBs at real value was dominated in all sites, but PCDF at TEQ value.

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휘발성유기화합물과 질소산화물의 오존생성 기여도 평가에 관한 연구

정장표 · 유숙진*

A Study on the Estimation for the Contribution of VOCs and Nitric Oxides in Creating Photochemical Ozone

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Abstract

The fifty six components of volatile organic compounds(VOCs) were continuously measured by the hour to see the distribution of its concentration and the ozone creating contribution of nitric oxides and VOCs in Gamjeon Odor and VOCs Monitoring Network from April to September, 2008. Aromatics occupied 51.3% of VOCs and paraffins, alkanes and olefins came in order. The monthly concentration of VOCs in Gamjeon was high in July and low in September. As for hourly concentration of ozone and nitric oxides, ozone started to increase since 10am having the highest in the daytime, and nitric oxides had the different trend from that of ozone, showing the lowest in the daytime. The photochemical ozone creating potentials(POCPs) of toluene, propane, m/p-xylene, ethylbenzene, and 1,2,4-trimethylbenzene were 30.6%, 10.2%, 9.4%, 7.4% and 5.2% respectively. These five components occupied 62.8% of total POCPs, which means they contributed to the ozone creation mainly. Related with the ozone creating contribution, the ratio of VOCs to NOx was generally under 6 occupied 72.0%, which came under the area coexisting the limit of VOCs. Therefore it is thought that the management of emission source of VOCs is very important for the reduction of ozone.

Key word : volatile organic compounds(VOCs), photochemical ozone creating potentials(POCPs)

한국실내환경학회 연차 학술대회 논문집 제7권, 2010

부산지역 지하생활공간 중의 석면 분포특성

Distributions of Airborne Asbestos in the Underground Spaces in Busan

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부산광역시보건환경연구원

서론

석면은 화학적 특성과 산업적 편리성에 의해, 1970년대부터 최근까지 국내 대부분의 건축물에 다양하게 이용되어 왔으며, 특히 단열재와 불연재의 사용이 불가피한 지하공간 건축자재로 많이 사용되었다. 유용성이 매우 큰 물질임에도 석면 노출은 20년 이상의 잠복기를 거친 후 석면폐, 폐암, 악성 중피종과 호흡기질환 등을 일으키는 것으로 보고되고 있어 현재는 사용이나 유통이 전면 금지되고 있다. 지하공간은 인간에게 심리적 안정과 쾌적감, 온열 등을 제공할 수 있지만, 실내 환기가 원활하지 못할 경우, 미세 먼지 등의 유해물질이 정체되어 지상공간의 실내 공기질보다도 훨씬 건강에 악영향을 미칠 수 있으므로, 건강 위해성 평가의 첫 단계로 석면자재 사용현황과 그 노출정도를 파악할 필요가 있다. 따라서 부산지역에서 이용도가 높고 1990년대 이전에 설치된 지하공간 시설물에 대해 공기중 석면의 농도를 조사하여 시민들의 건강 피해 예방 및 쾌적한 공기질 관리를 위한 자료를 제공하고자 한다.

한국실내환경학회 연차학술대회 논문집 제7권, 2010

2009 부산지역 다중이용시설에서의 실내공기질 특성에 관한 연구

Characterization of Indoor Air Quality in Public Facilities in Busan during 2009

조은정 · 정태욱 · 정재원 · 박기형 · 도우곤 · 조정구

부산광역시환경연구원

서 론

현대인들은 일상생활 중 대부분의 시간을 여러 형태의 실내공간에서 생활하기 때문에 실내 환경은 더욱 중요한 의미를 지니고 있다. 실내오염문제는 실내의 다양한 발생원에서 발생하는 수많은 종류의 오염물질들에 의해 야기되며 부적절한 환기설비 및 운영은 실내공기질 악화를 초래하여 재실자들의 건강상에 많은 영향을 주기 때문에 효율적인 실내공기질의 관리가 매우 중요하다. 환경부에서는 국민의 건강증진과 불특정다수가 이용하는 다중이용시설의 실내공기질을 보다 쾌적하게 확보하기 위하여 다중이용 시설 등의 실내공기질관리법을 2004년부터 시행하고 있으나 대상시설에 대한 연구조사 자료는 미약한 수준이다. 이에따라 부산 시에 위치한 대규모 점포, 실내 주차장, 의료기관, 목욕장, 지하역사, 보육시설, 도서관 등의 시설군에서 오염물질을 측정하여 이를 바탕으로 다양한 실내공간에서의 오염도 분포특성을 파악하고자 한다.

한국실내환경학회 연차학술대회
2010. 10 15 ~ 16, 연세대학교

지하역사 실내공기질 특성평가

Characteristics of Indoor Air Quality in Subway Station

정태욱 · 조정구 · 유평종 · 류병순
부산광역시보건환경연구원

서 론

도시철도는 서민들이 이용하는 대표적인 운송수단으로써, 「다중이용시설 등의 실내공기질관리법」에서도 지하역사를 관리대상에 포함시켜 관리를 하고 있다. 지하역사 실내공기질에 영향을 주는 주 오염원은 외부로부터 유입되는 공기의 영향을 받지만 건물구조나 환기시설 또는 냉난방시설 등에 의한 영향을 많이 받고 있으며, 실내에서의 공기오염물질 노출이 실외 대기노출보다 실제적 건강유해영향을 유발할 수 있다(임영국, 2007). 미국의 경우 전반적인 대기환경질의 수준은 개선되고 있음에도 불구하고 폐암이나 천식환자가 증가하고 있다는 문제점을 인식하여 실내공기에 관한 연구를 강화하고 있다.(이태영, 2007). 따라서 본 연구에서는 유동인구가 많은 지하역사 대합실에서의 실내공기질 특성을 파악하여 향후 지하역사의 실내공기질 관리를 위한 대책을 수립하는 근거자료로 활용할 수 있을 것으로 판단된다.

한국대기환경학회 춘계학술대회, 2010년 논문집

부산지역 대기 중 황산염 및 암모늄 이온의 입경분포 특성

Characteristics of sulfate and ammonium ions in size-segregated ambient particulate matter in Busan

박 기 형 · 조 정 구 · 유 은 철 · 유 평 중 · 류 병 순
부산광역시 보건환경연구원

서 론

대기 중 황산염(SO_4^{2-})은 인위적인 입자상물질의 주요 성분으로 대기중 SO_2 와 NH_3 와의 중화반응 생성물이며, 산성 SO_4^{2-} 는 황산(H_2SO_4), 아황산암모늄(NH_4HSO_4), 황산암모늄($(\text{NH}_4)_2\text{SO}_4$)으로 구성되어 있다. 대기중에서 위에 언급한 산성 SO_4^{2-} 의 형태는 기상조건 NH_3 의 농도에 따라 결합형태가 다르게 나타난다. 일반적으로 대기중 입자상 물질중 분석되는 SO_4^{2-} 는 위의 모든 형태를 합한 것이므로 입자의 크기에 따른 형태 및 농도 파악에는 한계가 있다. 대기중 입경분포는 입자상 물질의 수송, 대기로부터 지표면으로의 건성 및 습성 침적, 그리고 인간의 호흡기관 침적에 큰 영향을 미치며, 특히 작은 입자들은 호흡기계에 침투되어 인간의 건강에 영향을 주기 때문에 대기중 입자상 물질뿐 아니라 그 구성성분의 입경분포도 중요하다. 특히 미세먼지 구성성분의 가장 큰 부분을 차지하는 SO_4^{2-} 의 중요성은 더 크다할 수 있으며, TSP, PM10, PM2.5 등 입자상 물질보다 SO_4^{2-} 와 사망과의 관련성이 더 높다는 연구결과도 제시되고 있다.

본 연구에서는 대기 중 입자상 물질의 입경에 따른 분별 채취를 통하여 부산지역에서의 SO_4^{2-} 과 NH_4^+ 이온의 입경분포 특성을 알아보려고 하였다.

한국대기환경학회 춘계학술대회 2010년 논문집

부산지역 대기 중 수용성 입자상 물질의 입경분포 특성

Characteristics of size distribution of water-soluble particulate matter in ambient air in Busan

박 기 형 · 도 우 곤 · 조 정 구 · 유 평 종 · 류 병 순 · 이 병 규^{1)*}

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서 론

대기 중 입경분포는 입자상 물질의 수송, 대기로부터 지표면으로의 건성 및 습성 침적, 그리고 인간의 호흡기관 침적에 큰 영향을 미친다. 특히 작은 입자들은 호흡기계에 침투되어 인간의 건강에 영향을 주기 때문에 대기중 입자상 물질뿐 아니라 그 구성성분의 입경분포도 중요하다. 입경분포(부피 및 질량분포)는 두 개의 영역 즉, accumulation mode(0.1~2 μm)와 coarse mode(2~50 μm)로 나타낼 수 있으며, accumulation mode의 입자는 1차 배출원의 결과로서 기체상에서 2차 황산염, 질산염, 그리고 유기물로 응축되거나 더 작은 입자의 응결과정을 통해 생성된다.

본 연구에서는 대기 중 입자상 물질의 입경에 따른 분별 채취를 통하여 부산지역에서 수용성 입자상 물질의 입경분포 특성을 알아보고자 한다.