Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

97 Raining Mold?

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RATIONALE: The spring seasons of 2013-2015 in Omaha NE were warm and wet with frequent thunderstorms and heavy rains. The possible effect on airborne fungal spores was studied.

METHODS: 24 hour Burkard spore trap samples (May-July of 2013, 2014, & 2015) were analyzed for fungal spore content. Local weather data and "weather events" obtained from NOAA for the same time period were noted.

RESULTS: In mid-May of each year, mold spore levels rose quickly and remained high through June and July. Very high mold counts (> than 50,000 spores/M^3) were also recorded during the study period: 23 (2013, 24 (2014), and 31 (2015). "Wet-weather" spora (ascospores & basidiospores) were more abundant than air dry spora (Cladosporium & Alternaria), but the latter were also well represented. Frequent rain events ranged from heavy rains to many hours of light rain or drizzle.

CONCLUSIONS: (1) Weather can have a profound effect on the amount and type of airborne fungal spores: our NAB station recorded abundant amounts of wet-weather spora along with lesser but plentiful amounts of dry air spora from May through July, 2013-2015. In contrast, we had previously reported extraordinary amounts of Cladosporium & Alternaria spores aerosolized over a one month period when "black corn" was harvested after a severe drought. (2) Large amounts of both wet and dry air spora can be released over an extended period of time. (3) More research into ascospore and basidiospore allergy may be warranted.

98 Role of Cadmium and Folate Levels in Risks of Allergic and Respiratory Diseases of Early Childhood: The Mothers and Children's Environmental Health Study

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RATIONALE: Maternal diet affects offspring DNA methylation. However, the results for the effect of cadmium and folate status during pregnancy or childhood on development of allergic or respiratory disease are still unknown.

METHODS: In total, 917 mother–child pairs from a prospective birth cohort in South Korea were studied. Data regarding the children's allergic and respiratory outcomes were obtained from questionnaires by the mothers at postnatal months 6, 12, and 24. Serum cadmium and folate levels were measured in the mothers at mid- and late pregnancy, and in their children at 24 months of age. Atopic biomarkers were measured in the cord blood (CB) and at 24 months after birth. At 24 months data of 462 children were available.

RESULTS: We compared the individuals of high folate with those of low folate. Individuals of high folate during had lower levels of cadmium (1.51 μg/L vs 1.44 μg/L, $p<0.05$ at mid pregnancy: 1.59 μg/L vs 1.56 μg/L, $p<0.01$ at late pregnancy). Higher folate (≥9.5 ng/mL) with lower cadmium (<1.5 μg/L) levels during mid pregnancy were associated with increased risk of AD at 24months of age (adjusted odds ratio [aOR] 0.36, 95% CI (0.14 to 0.95), $p=0.04$. However there was no relationship between cadmium or folate levels at 24 months of age and risk of allergic or respiratory diseases.

CONCLUSIONS: Higher folate with lower cadmium levels during pregnancy may contribute to increase the risk of AD in early childhood.

99 Prevalence of Respiratory Viruses in Patients with Acute Respiratory Infections in Korea

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RATIONALE: Acute Respiratory Infections (ARI) are the most common infectious disease that caused significant morbidity and mortality with consequently an enormous economic burden. Since Dec 2005, Korea Centers for Disease Control and Prevention has been running surveillance system KINRESS(Korea Influenza and Respiratory Virus Surveillance System) for the detection of major respiratory viruses. We investigated the viral pathogen causing ARI in Korea, 2013.

METHODS: We performed multiplex PCR/RT-PCR on respiratory specimen(throat oral nasal swab) to determine the prevalence of 14 viruses including adenovirus(HAdV), parainfluenza virus(HPIV) 1, 2, 3, respiratory syncytial virus(HRSV) A and B, influenza virus(IFV) H1N1pdm09, H3N2, B, human coronavirus(HCoV) 229E, NL63 and OC43, human rhinovirus (HRV), human bocavirus(HBoV) and human metapneumovirus(HMPV). And the statistical analysis was performed to investigate the characteristics of age-distribution, seasonality, and clinical features of ARI patients.

RESULTS: Respiratory viruses were detected by 49.4% of enrolled patients(n=15,050), and 1-5 year-old age group accounted for almost. However, significant differences were not observed depending on the age group of virus detection rate. HAdV, HPIV, HRSV, HCoV, HBoV and HMPV were mainly detected from under 5 years old. IFV were mainly detected on over 6 years old. HRSV, IFV, HCoV infections were peaked in winter season. In summer, incidence of HPIV and HBoV were increased. When we analyzed the association of viral infection with clinical feature, almost infections were correlated with fever, cough and runny nose.

CONCLUSIONS: Our data suggest that there was a meaningful relationship between viral infection and typical manifestation of known clinical feature as well as seasonality and age distribution.

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