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INTRODUCTION: Henoch-Schönlein Purpura (HSP) is a common vasculitis in children, and the unbalance of T-helper 1/T-helper 2 plays an important part in its pathogenesis. Mannose-binding lectin (MBL) is an important component of innate immunity and related with a lot of diseases with immunologic derangement. However, we do not know the relationship between MBL and HSP.
OBJECTIVE: We aimed to explore the serum level and gene polymorphisms of MBL and the levels of interleukin 10 (IL-10), IL-12, and IL-18 in supernatant of peripheral blood mononuclear cells of children with HSP and HSP nephritis (HSPN) and of healthy children.
METHODS: The concentrations of MBL and IL-10, IL-12, and IL-18 were measured by enzyme-linked immunosorbent assay: *MBL* gene polymorphisms were analyzed by polymerase chain reaction-restriction fragment length polymorphism and polymerase chain reaction with sequence-specific primers.
RESULTS: The serum MBL levels in the 23 children with HSP were not significantly different from 27 children with HSPN ($P = .95$) or 18 normal children. The levels of IL-18 in the supernatant of peripheral blood mononuclear cells in the 3 groups were not significantly different from each other ($P = .47$, .15, and .14). The levels of IL-10 in children with HSP and HSPN were not different from each other ($P = .70$), but both were significantly different from those in the normal children ($P = .04$ and .01). The levels of IL-12 in children with HSP were different from those in the children with HSPN ($P = .04$). The MBL promoter genotype and the frequency of alleles were not different between the children with HSP and HSPN or between those 2 groups compared with the normal group.
CONCLUSIONS: IL-12 probably plays an important role in the renal involvement in HSP. The position of MBL in the pathogenesis of HSP and HSPN remains to be confirmed.

RESPIRATORY SYNCYTIAL VIRUS INDUCED MORE SERIOUS INFECTION AND INFLAMMATION IN NUDE MICE THAN IN BALB/c MICE

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INTRODUCTION: Respiratory syncytial virus (RSV) infection is ubiquitous and leads to severe disease in immunocompromised individuals.
OBJECTIVE: Our goal was to compare RSV infection and inflammation between immunocompetent BALB/c mice and immunodeficient nude mice.
METHODS: Pulmonary viral titers, histology, immunohistochemistry for CD14 and CD56, leukocyte counting, and cytokines were assayed by enzyme-linked immunosorbent assay in bronchoalveolar lavage fluid.
RESULTS: RSV titers peaked on the third day after inoculation in both types of infected mice. Infected nude mice had higher-level and more durative viral replication, more severe pulmonary histopathology, and a larger number of leukocytes in bronchoalveolar lavage fluid than infected BALB/c mice. Infected nude mice displayed more pulmonary ($CD14^+$) macrophages (114.34 ± 20.24 vs 75.46 ± 12.37; $P = .05$) and ($CD56^+$) natural killer cells (37.87 ± 8.07 vs 11.06 ± 5.37; $P = .05$) than infected BALB/c mice. RSV infection enhanced production of tumor necrosis factor α, interleukin 12 (IL-12), interferon γ, and IL-10 in both types of mice. Infected nude mice had a higher level of tumor necrosis factor α (40.30 ± 7.34 vs 24.24 ± 9.54; $P = .05$), IL-12 (83.96 ± 12.32 vs 68.21 ± 7.42; $P = .05$), and IL-10 (125.01 ± 18.97 vs 77.56 ± 9.01; $P = .05$) than infected BALB/c mice.
CONCLUSIONS: RSV-infected nude mice are a good model for assessing severe and persistent infection in individuals at high risk. RSV-induced inflammation is not parallel to the immune response of T cells, and macrophages and natural killer cells contribute to severe infection and inflammation of RSV-infected cellular-immunodeficient individuals.

Infectious Diseases

DIAGNOSTIC VALUE OF IN SITU POLYMERASE CHAIN REACTION IN CHILDHOOD LEPROSY

Submitted by Rajeshwar Dayal
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OBJECTIVE: Our aim was to assess the diagnostic value of in situ polymerase chain reaction (PCR) in leprosy, particularly for enhancing histopathological diagnosis.
METHODS: We prospectively studied 20 children (aged <16 years) with leprosy. Clinical examination of each case was performed, and skin smear for acid-fast bacillus was prepared. A biopsy of the lesion site was performed

for histopathological examination and in situ PCR testing.

RESULTS: Histopathological examination confirmed the clinical diagnosis in only 45% of the cases; nonspecific histopathology was reported for the remaining 55% of the cases. In situ PCR showed a positivity of 57.1% in the early/localized form of leprosy (indeterminate/borderline tuberculoid) and 61.5% in the borderline borderline/borderline lepromatous group. When compared with the histopathological examination, a significant enhancement of 15% in diagnosis was seen. With in situ PCR, the diagnosis could be confirmed in 4 (36.3%) of 11 cases with nonspecific histopathological features (which is common in early disease) in addition to confirmation of 8 (88.8%) of 9 histopathologically confirmed tissue sections. Histopathology and in situ PCR combined together confirmed the diagnosis in 13 (65%) of the 20 cases.

CONCLUSIONS: In situ PCR is an important diagnostic tool, especially in early and doubtful cases of leprosy.

DETECTION AND MOLECULAR SEROTYPING OF GROUP B *STREPTOCOCCUS* IN FATAL NEONATAL PNEUMONIA IN CHINA

Submitted by Jianghong Deng

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INTRODUCTION: Group B *Streptococcus* (GBS) has been recognized as an important pathogen in neonatal infectious disease. However, there are few data on the prevalence of neonatal GBS infection in China.

OBJECTIVE: Our aim was to estimate the infection rate of GBS in neonatal pneumonia in China and identify distribution of the GBS serotype.

METHODS: We retrospectively studied 200 children with fatal neonatal pneumonia who died between 1953 and 2004; 34 fatal neonatal cases without any infectious disease were used as a control group. Paraffin-embedded lung tissues were collected for total genomic DNA extraction. Polymerase chain reaction (PCR) and Southern blotting were used for GBS detection and molecular serotyping.

RESULTS: (1) The positive rate of GBS in the pneumonia group was significantly higher than that in the control group (PCR: 26% vs 3% [$P < .01$]; Southern blot: 65% vs 18% [$P < .01$]). (2) The positive rate in neonates younger than 7 days was significantly higher than that in neonates older than 7 days (PCR: 37% vs 13% [$P < .01$]; Southern blot: 72% vs 52% [$P < .05$]). (3) Risk factors were identifiable for most GBS-positive cases. (4) In the pneumonia group, 22 GBS-positive cases were serotypeable: 7 cases were identified as serotype Ia, 6 cases were serotype III, 5 cases were serotype II, and 1 case was serotype Ib.

CONCLUSIONS: In China, GBS is an important pathogen in fatal neonatal pneumonia, especially in early-onset cases. Serotypes Ia, III, and II were the most common serotypes identified.

PERIPHERAL BLOOD COUNT FOR DENGUE SEVERITY PREDICTION: A PROSPECTIVE STUDY IN THAI CHILDREN

Submitted by Nanthakorn Eu-Ahsunthornwattana

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INTRODUCTION: Dengue viral infection has a wide range of severity levels and requires different levels of medical attention. Early severity prediction using clinical features is difficult. Certain lymphocytic subtypes can be used to predict severity; we postulate that peripheral blood counts can also predict severity, which would be more useful in smaller rural hospitals.

OBJECTIVE: We aimed to compare the peripheral blood counts between patients with mild dengue infection and those with severe dengue infection and identify simple yet sensitive early severity predictors.

METHODS: We enrolled 91 patients with serologically confirmed dengue infection who were admitted to King Chulalongkorn Memorial Hospital. Their leukocytic counts on admission were compared. Potential predictors were identified by using receiver-operating-characteristic analysis.

RESULTS: Compared with patients with mild infection, those with severe infection (dengue hemorrhagic fever grade II or worse) had a higher leukocyte count (3580 vs 3050 cells per μL; $P = .04$), and fewer had leukopenia on admission (70% vs 89%; $P = .03$). They also had a lower percentage of "typical" lymphocytes (24% vs 40%; $P = .02$). Two predictors were identified; either one classified ~19% of all admitted patients as being at low risk. Typical lymphocyte counts of <40% excluded patients with mild disease with 89% sensitivity and 24% specificity (negative predictive value: 77%; positive predictive value: 45%). A combination of parameters [(white blood cells per μL) + 470 × (% typical lymphocytes) + 5 × (atypical lymphocytes per μL) $\geq -14\,950$] improved the sensitivity and specificity to 92% and 26% (negative predictive value: 82%; positive predictive value: 46%).

CONCLUSIONS: The absence of leukopenia and a low percentage of typical lymphocytes predict severe dengue illness. Simple hematologic parameters may be used to reduce unnecessary admissions of patients with sus-

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