OL-062 Polymorphisms of 4 antigenic genes in recent clinical *Bordetella pertussis* strains in China

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Objectives: Despite the introduction of whole-cell vaccine has reduced the morbidity and mortality of population, pertussis has remained endemic and re-emerged in the last decade in some countries. Antigenic shift has been explained as one of the possible reasons for resurgence of pertussis. Nevertheless, epidemiological data on pertussis is very rare in China. The objective of this study was to analyze the major antigenic genes of recent clinical *B. pertussis* strains of North China.
Methods: Four genes, including pertussis toxin (pt), pertactin (prn), fimbriae (fim2 and fim3), were investigated. The complete open reading frames of the genes were amplified and sequenced. The sequences were also compared with the recent prevalence in the world.
Results: The results showed four *B. pertussis* isolates belonged to ptxS1A type, which is distinct from the Chinese *B. pertussis* vaccine strain CS but identical to the major type currently isolated from some countries. In addition, non-vaccine prn types and 3 fim3 types were also found in clinical isolates, and the results exhibited the homologies of nucleotide and deduced amino acid sequence of those strains showed more than 99%.
Conclusion: To the best of our knowledge, our study firstly displayed Chinese *B. pertussis* isolates are distinct from the Chinese vaccine strain CS on some antigenic genes. Comprehensive molecular epidemiological monitoring of *B. pertussis* is needed in China to develop the new pertussis vaccine.

OL-063 Relative frequency of *Streptococcus pneumonia* and *Haemophilus influenzae* in Chinese children with pneumonia

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Background: Community-acquired pneumonia is a leading cause of morbidity and mortality in children. Knowledge of the etiology of pneumonia is important. In the two prospective series of children hospitalized for pneumonia in Beijing Children's Hospital, the causative agents were searched for with a wide panel of microbiologic assays.
Methods: We chose two subjects enrolled in this study. One was that 156 consecutive children (3m~5y) with symptoms and signs of pneumonia were studied from November 1997 to May 1998. Paired sera for 20 microbiologic assays were taken. And the other we developed a multiplex PCR-based reverse line blot hybridization assay, to identify 12 respiratory bacterial pathogens, simultaneously, and tested nasopharyngeal aspirates from 100 children (3m~5y) from October 2004 to May 2005.
Results: From November 1997 to May 1998, in combined series evidence for bacterial etiology was obtained in 30% of cases. The dominant bacteria were pneumococcus, *Haemophilus influenzae* type b, *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*, responsible for 13, 10, 8 and 8% of cases, respectively. From October 2004 to May 2005, the species most commonly identified, were *Streptococcus pneumoniae* (53%) and *Haemophilus influenzae* (38%). *Mycobacterium tuberculosis*, *Mycoplasma pneumoniae*, and *Chlamydia pneumoniae* were each identified in one to four specimens. All of 14 *S. pneumoniae* isolates belonged to serotypes represented in the 11-valent pneumococcal conjugate vaccine. Most patients were treated with extended spectrum antimicrobials.
Conclusions: The leading agent causing childhood pneumonia was pneumococcus, and then Hi. This observation suggests great potential for pneumococcal vaccinations in China.

OL-064 Incidence of *Mycoplasma pneumoniae* infection in child atypical pneumonia in Tianjin

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Objective: In order to offer useful information to the clinical therapy of Child Atypical Pneumonia and the epidemiologic studies of *Mycoplasma pneumoniae* (Mp) in China, an investigation about the incidence of Mp in Child Atypical Pneumonia in Tianjin was performed.
Methods: 100 cases of children who got atypical pneumonia in a children's hospital in Tianjin were chosen to take part in the investigation of the Mp. Their broncho-alveolar lavage fluids (BALF) were collected. The detection of Mp was done by by using conventional PCR and confirmed PCR which targeted different genes. At the same time, the infection rates of seven kinds of virus of the children were collected.
Results: Both the conventional PCR and confirmed PCR are positive were thought to be positive, therefore among the 100 cases, there were 61 (61%)cases positive, but the positive rate of the seven kinds of virus, which containing Human respiratory syncytial virus (RSV), Influenza A virus (IFV A), Influenza B virus (IFV B), Parain-fluenza virus 1 (PIV1), Parain-fluenza virus 2 (PIV2), Parain-fluenza virus 3 (PIV3) and Adenovirus (ADV) were 31%, 2%, 0, 0, 0, 4% and 0, respectively. The detection rate between the Mycoplasma pneumoniae and the seven virus has statistical difference ($P<0.05$).
Conclusions: The incidence of Mp in children with aptical pneumonia in Tianjin was higher than other areas in China. The detection rate of Mp is higher than seven kinds of virus. And the examination of Mp shouldn't be ignored.

OL-065 An outbreak of SARS in a single diabetes ward of a general hospital

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Objective: To study the epidemiological features of the SARS that occurred in a single diabetes ward of a general hospital in Beijing in late March 2003.
Methods: The environment of the ward was investigated, and the information about the patient was acquired through inquiring the responsible doctors and consulting the hospitalization medical record of these patients.
Results: On the 13th floor of the Ward Building of a general hospital, a part of the floor was the Endocrinology Department with 9 wards, and most of the inpatients were diabetes patients.

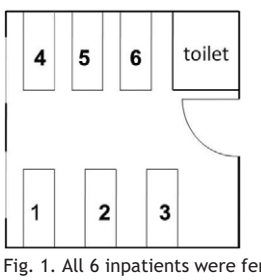

Fig. 1. All 6 inpatients were female with type 2 diabetes mellitus;the index case was the Patient on bed 1,all of these 3 patients on bed 1, 2, 3 finally died. Patients in bed 4, 5, 6 were not found ill.

The ward in which SARS occurred was 44.48m^2, the front of the two windows of this ward faced the west, and there were no high-rise buildings blocking it across the ward within a couple of hundred meters. There were 6 beds in the ward, and the heads of the beds stood by the walls: Beds 1-3 were situated in the southern side of the ward, and Beds 4-6 in the northern. There were 6 women patients aged 45-65, and all of them were hospitalized due to Type 2 Diabetes (Fig. 1). On March 24, 2003, the patient on Bed 1 began to have a fever and cough, and before then she had taken public means of transportation to go home several times. On April 29 and 30, the patients on Beds 2 and 3 began to have a fever respectively. Finally, all of these 3 patients died (the patients on Beds 1 and 2 were not conducted pathogenic detection, and the patient on the Bed 3 showed that the serum SARS COVRNA positive by nest-PCR). However, the 3 patients on the other 3 beds in the northern side of the same ward did not come down with the disease, no one was found ill among the medical staff, and the daughter-in-law of the Bed 1 patient was not also infected with the disease although she had accompanied the patient at the bedside ever since the patient began to have a fever. Moreover, there did not exist any evident differences between the 3 dead patients on Beds 1-3 and the other 3 uninfected patients of Beds 4-6 in either ages or the disease severity of diabetes.

Conclusion: The diabetes patients may be prone to being infected with SARS; Infection easily happens to the downwind location of the SARS patients; In order to avoid the cross- infection inside the hospital, in the ventilation designs of hospitals, a special attention should be also paid to both airflow direction and ventilation direction besides to the excellent ventilation.