

transmission between the immigrant and autochthonous population has been frequently detected (8), likely indicating a fairly high degree of social permeability between the 2 groups. The transmission of Beijing MTB from a person born in another country to a person born in Spain reported here seems to follow this trend and raises concern about a potential spread of Beijing MTB to the autochthonous population.

The isolate from the other Spanish patient (patient 6) shared the genotype of the strain described earlier in the spread of Beijing genotype in Gran Canaria (9); a Liberian was the first case-patient. The patient from Spain in our report had been imprisoned on that island before her arrival in Madrid. These data suggest another way Beijing genotype can be imported into Spain, which is different from the South American route.

In summary, we describe TB patients with Beijing genotype strains in Madrid among patients from South America. This geographic origin differs from the predominant Asian origin reported for TB cases in other European countries caused by the Beijing genotype. Our findings suggest an alternate route of transmission between South America and Europe for the Beijing genotype. Furthermore, the recent occurrence of this genotype in a TB patient from Spain, who shared an RFLP type with a South American patient, suggests further transmission of these strains into the local community. Longitudinal studies should monitor the potential impact and establishment of these strains after their introduction.

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## H5N1 Avian Influenza, Kampot Province, Cambodia

**To the Editor:** As a resident in pediatrics with an interest in infectious diseases, I was fascinated by the range and scope of conditions I saw in May and June of 2005 in local children in Kampot Province, a mainly rural area in southeastern Cambodia. This province, near the Vietnamese border, is the epicenter of H5N1 avian influenza in Cambodia, with all 4 known human cases of the disease. All of these documented human cases have been fatal.

While the World Health Organization and the Cambodian Ministry of Health have engaged in public education, the village-level response to a pathogen of potential global importance is evolving. As part of my work in Cambodia, I made numerous information-gathering visits to villages in Kampot Province. Though village elders and health workers had often heard of the "bird flu," most of the villagers I spoke to had not. Many persons did not know whom to contact should their chickens

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or other birds die. Those who knew about H5N1 influenza told me that, without adequate compensation for culling flocks, little incentive would exist to report bird deaths. In a typical village, chickens, ducks, and pigs intermingled with each other and with humans underneath or around homes on stilts. General knowledge of infection control practices among villagers was minimal.

The dissemination of information into a rural, agricultural society such as that in the southeast of Cambodia is a difficult task. Many rural inhabitants do not have televisions or radios and may infrequently travel to larger towns. Health workers from international groups, nongovernmental organizations, and the government are often required to travel on foot or motorbike through fields and forests to reach and educate the population. Government health workers lack the personnel and resources to adequately identify and investigate potential cases, and Cambodia has substantially fewer microbiology laboratories than do neighboring Thailand and Vietnam.

Should a pandemic of avian influenza occur, it will almost certainly originate in Southeast Asia. Cambodian and international health organizations have recognized the country's potential key role in propagation of an impending pandemic agent. However, because of its history and current economic state, Cambodia is less able to respond to the avian influenza threat than its neighbors. In recognition of this fact, the World Health Organization and the Cambodian Ministry of Health have stated that the prevention, control, and identification of avian influenza are national priorities. Additionally, international funds have been flowing into Cambodia to assist with avian H5N1 influenza surveillance and case investigation. Much work remains to be done; we hope that by combining international resources and policy with domestic expertise and effort,

Cambodia will mount a successful response against this emerging threat.

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## *Helicobacter pylori* and Immuno-compromised Children

**To the Editor:** *Helicobacter pylori* has been classified as a carcinogenic pathogen. Its prevalence is high in developing countries. Apart from the known gastrointestinal pathologic changes caused by this organism, reports on the association between *H. pylori* infection and extragastrointestinal diseases have been increasing. Although impaired host immunity should be associated with a high prevalence of this infection, a definitive relationship has not been established. We conducted a cross-sectional study to determine the prevalence of *H. pylori* infection in immunocom-

promised Thai children.

The study was reviewed and approved by the research ethic committee of Chiang Mai University. From 2003 to 2004, a total of 60 children <18 years of age, who received corticosteroids, immunosuppressive drugs, or both, were enrolled consecutively into this study. Patients who had taken proton pump inhibitors and antimicrobial drugs 2 weeks before the study began were excluded. Stool specimens were collected and immediately stored at  $-20^{\circ}\text{C}$  before analysis with the *H. pylori* stool antigen test (Meridian Bioscience Inc., Cincinnati, OH, USA). Although no study has validated this test in Thai children, most studies report its high sensitivity and specificity (>90%) (1).

The children enrolled in the study had a mean age of 7.9 years (range 0.5–16.6) and most were receiving both corticosteroids and chemotherapy (n = 36). Fourteen patients were being treated exclusively with corticosteroids, and 10 patients were receiving only chemotherapy. A total of 17.4% of the children <5 years of age had *H. pylori* infection, and the overall prevalence was 20%. Although we observed a relatively high prevalence of infection in patients with malignancy, particularly leukemia, the trend did not reach statistical significance (Table).

In contrast to previous studies that reported a low prevalence of infection with *H. pylori* in patients with AIDS (2) and leukemia (3), we demonstrated

Table. *Helicobacter pylori* stool antigen test results in immunocompromised children and primary diagnosis\*

Primary diagnosis	<i>H. pylori</i> stool antigen test	
	No. positive	No. negative
Malignancy		
Leukemia	8	21
Lymphoma	2	3
Neuroblastoma	0	7
Retinoblastoma	0	2
Nonmalignancy		
Nephrotic syndrome	1	8
SLE	0	6
Chronic renal failure	1	1

\*SLE, systemic lupus erythematosus.