

Epidemiologic Features of Severe Fever With Thrombocytopenia Syndrome in China, 2011–2012

TO THE EDITOR—Severe fever with thrombocytopenia syndrome (SFTS), an emerging vector-borne disease, is caused by a novel bunyavirus belonging to the genus *Phlebovirus* [1, 2]. SFTS infections can be life-threatening and are characterized by sudden onset of fever, thrombocytopenia, gastrointestinal symptoms, and leukocytopenia. The tick *Haemaphysalis longicornis* is generally considered to be the vector of SFTS, which is widely distributed in China [2]. Person-to-person transmission through direct contact with contaminated blood has also been reported as a possible means of SFTS transmission [3–5]. Currently, there is no specific treatment other than supportive care [6].

In China, SFTS was first identified in 2009 with a 30% case fatality rate [1, 7, 8]. SFTS remains a serious public health problem in that it poses a great threat to residents living in rural areas and gives rise to panic in China. The clinical epidemiology of SFTS infection is poorly understood. To understand the characteristics of patients with SFTS in China, data on individual SFTS cases from 2011 to 2012 were collected from the China Information System for Diseases Control and Prevention, which included information about sex, age, occupation, residential address, and day of symptom onset, diagnosis, and death for each patient. In 2011–2012 in China, 2047 cases of SFTS were reported (46.65% male and 53.35% female), and 129 deaths (55.04% male and 44.96% female) occurred. The majority (74.89%) of SFTS cases during 2011–2012 in China occurred yearly between May and August. Age of patients ranged from 1 year to 90 years (median, 58 years); most were farmers (81.40%), including agricultural and forest workers from rural areas. SFTS cases had a clustered distribution over 206 counties of eastern and central China; the provinces with highest number reported cases were Henan (48.22%), Hubei (21.89%), and Shandong (15.68%).

Analysis of SFTS mortality data has shown that the median age of death was 64 years (range, 38–86 years) and that mortality increased with age (Cochran-Armitage trend test, $z = 4.70$, $P < .01$), with those aged >70 years making up most (10.91%) of the deaths possibly because of lower immunity in this age group and the presence of comorbidities with chronic diseases. Mortality was significantly higher in nonfarmers compared to farmers (10.13% vs 5.80%, $\chi^2 = 6.64$, $P < .01$). The median number of days between onset of illness to death was 9 days, and most fatalities (75.97%) occurred within 2 weeks of illness onset. Nationwide, the mortality, at a county level (<20 cases not included), ranged from 0.00% to 23.81% with the highest mortality in Penglai County, Shandong Province. Interestingly, the mortality rate of the migrant population in the

same province was higher than that of local residents (11.03% vs 6.26%, $\chi^2 = 6.93$, $P < .01$).

It is noteworthy that 50 patients were initially misdiagnosed with other infectious diseases, including 24 (48%) with human granulocytic anaplasmosis and 9 (18%) with hemorrhagic fever with renal syndrome. Mortality of misdiagnosed patients was significantly higher than that of patients with confirmed SFTS (16% vs 6.06%, $\chi^2 = 8.16$, $P < .01$), which shows that improving the awareness of health professionals in endemic areas to the clinical manifestations of SFTS can contribute to the timely diagnosis of SFTS and is likely to reduce SFTS-associated deaths. To improve the ability to distinguish SFTS from other diseases, it is important to gather epidemiologic evidence about contact with wild or domestic animals and the extent of outdoor activity.

The study describes the characteristics of SFTS cases throughout China, which will be useful for the prevention and treatment of SFTS for health authorities in China and other countries with SFTS [9]. People, especially migrant populations in an endemic area of SFTS, should take necessary measures to avoid being bitten by ticks when pursuing outdoor activities.

Notes

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Fan Ding,^{1,a} Wenyi Zhang,^{2,a} Liya Wang,^{2,a} Wenbiao Hu,^{3,a} Ricardo J. Soares Magalhaes,^{3,a} Hailong Sun,^{2,a} Hang Zhou,¹ Sha Sha,⁴ Shenlong Li,² Qiyong Liu,¹ Qun Li,¹ Weizhong Yang,¹ Liuyu Huang,² Chengyi Li,² and Wenwu Yin¹

¹Key Laboratory of Surveillance and Early-warning on Infectious Disease, Chinese Center for Disease Control and Prevention, and ²Institute of Disease Control and Prevention, Academy of Military Medical Science, Beijing, China; ³School of Population Health, Infectious Disease Epidemiology Unit, The University of Queensland, Brisbane, Australia; and ⁴Institute of Infectious Disease Control and Prevention, Hubei Provincial Center for Disease Control and Prevention, Wuhan, China

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^aF. D., W. Z., L. W., W. H., R. J. S. M., and H. S. contributed equally to this work.

Correspondence: Wenwu Yin, Chinese Center for Disease Control and Prevention, 155 Changbai Rd, Changpin District, Beijing 102206, People's Republic of China (yinww@chinacdc.cn).

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